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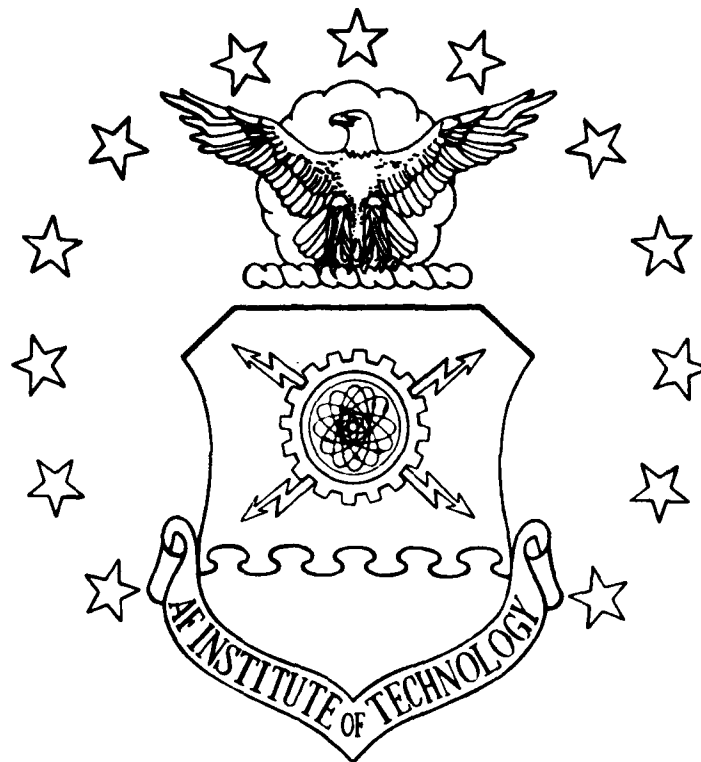
AN ANALYSIS OF THE RELATIONSHIPS
BETWEEN AIR FORCE CIVIL ENGINEERING
ORGANIZATIONS AND THE AIR FORCE
SUGGESTION PROGRAM

THESIS

Steven W. Ditmer
First Lieutenant, USAF

AFIT/GEM/LSH/86S-8

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DEPARTMENT OF THE AIR FORCE
AIR UNIVERSITY
AIR FORCE INSTITUTE OF TECHNOLOGY

Wright-Patterson Air Force Base, Ohio

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AN ANALYSIS OF THE RELATONSHIPS BETWEEN

AIR FORCE CIVIL ENGINEERING ORGANIZATIONS AND

THE AIR FORCE SUGGESTION PROGRAM

THESIS

Presented to the Faculty of the School of Systems and Logistics

of the Air Force Institute of Technology

Air University

In Partial Fulfillment of the

Requirements for the Degree of

Master of Science in Engineering Management

Steven W. Ditmer, B.S.

First Lieutenant, USAF

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---Steven W. Ditmer

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Abstract

/ The purpose of this ~~study~~ *Thesis* was to examine and quantify the observations of a senior Air Force Civil Engineering (CE) manager regarding the relationships between Air Force CE organizations and the Air Force Suggestion Program (AFSP). The study had three basic objectives: (1) Determine how the AFSP compares with members of the National Association of Suggestion Systems; (2) Measure the attitudes of CE personnel and full-time suggestion program (SP) administration personnel toward the AFSP and compare the attitudes of the two groups; (3) Determine the ratio of benefits to costs for suggestions evaluated by CE organizations and collect ideas for improving the AFSP to make it more cost-effective.

The study found that the mean AFSP evaluation time is much longer than for most NASS members and recommends that commander emphasis be placed on reducing those times.

Analysis of the attitude surveys found that CE personnel have <u>slightly</u> <u>favorable</u> attitudes toward the AFSP, and that SP personnel have <u>more</u> favorable attitudes than the CE personnel. CE personnel agreed and SP personnel <u>strongly</u> agreed that the AFSP should be continued. CE officers were found to have significantly <u>less</u> favorable attitudes toward

the AFSP than CE enlisted personnel and civilians. SP personnel who have read AFR 900-4 and use it often were found to have significantly _more_ favorable attitudes toward the AFSP than do SP personnel who have lesser knowledge and use of the regulation.

Using fiscal year 1985 data, the benefit/cost ratio for suggestions evaluated by CE organizations was only 0.92. During that year, CE organizations evaluated 6.5 percent of the suggestions but those suggestions accounted for only 0.65 percent of the total AFSP tangible benefits. Among the recommendations provided to improve that ratio is to eliminate traffic and safety suggestions from eligibility for the program.

AN ANALYSIS OF THE RELATIONSHIPS BETWEEN AIR FORCE CIVIL ENGINEERING ORGANIZATIONS AND THE AIR FORCE SUGGESTION PROGRAM

I.   Introduction

Chapter Overview

Chapter I introduces the relationships between Air Force Civil Engineering organizations and the Air Force Suggestion Program and states the problems that form the basis for the thesis. The definitions section identifies the populations under study. The general issue section introduces the problem situation and states the justification for the project. The statement of research objectives, specific subobjectives, research questions, and scope sections focus the study on two distinct areas. First, the study measured the attitudes of Air Force Civil Engineering and Air Force Suggestion Program personnel about the Air Force Suggestion Program. Second, the study determined the ratio of benefits to costs for suggestions sent to Air Force Civil Engineering organizations for evaluation.

Definitions

In this study, Air Force Suggestion Program personnel are defined as those people whose sole duties involve the administration of the Air Force Suggestion Program, whether

at base, major command, or other levels. Air Force Civil Engineering personnel are defined as those people who are members of Air Force Civil Engineering (CE) organizations, whether at base, major command, or other levels. Air Force Civil Engineering personnel who evaluate suggestions for the the Air Force Suggestion Program are considered to be civil engineering personnel, not suggestion program personnel.

General Issue

According to a 1984 article by Edmund E. Ellis, then president of the National Association of Suggestion Systems, "there isn't any function in any business that operates at maximum cost effectiveness" (9:106). Using the same logic, the Air Force is constantly seeking better, more efficient ways to accomplish its mission. One formal program with that goal is the Air Force Suggestion Program. According to the National Association of Suggestion Systems, a non-profit professional organization established in 1942 and now numbering more than 1,000 company and government members (19:3)(23:36), the Air Force Suggestion Program has had at least comparative success in achieving its goal. For calendar year 1984, the Air Force Suggestion Program won the National Association of Suggestion Systems award for the best Federal Agency Suggestion Program (21:6).

Selection for that award came just one year after Secretary of Defense Caspar Weinberger placed special emphasis on the program, saying:

I am calling on each of you to strive for the very highest level of performance possible and to identify and suggest ways of making operational and other improvements within your organizations [14:15].

Following receipt of the award by the Air Force, Mr. Weinberger expressed his congratulations to the Air Force in a letter to Verne Orr, then Secretary of the Air Force. The following is an excerpt from Secretary Weinberger's letter:

Earlier this year, we identified the Suggestion Program as one of several personnel management areas that should receive the highest priority throughout the Department of Defense. We recognized, as the Air Force obviously does, that, if given the proper level of support, the suggestion program can be a most effective management tool and communications system for encouraging employees to participate in improving operations and sevices.

It is my understanding that during 1984, suggestions submitted by Air Force military and civilian personnel resulted in first-year savings to the American taxpayer of $94 million and that tangible savings for 1985 will reach $129 million. This is an extraordinary achievement and represents a high level of support for the program throughout the Air Force chain of command. It is also directly in line with the President's Productivity Initiative [29:3].

Not content to rest on these past accomplishments, the Air Force continually seeks ways to further improve its suggestion program. As an example, Mr. William F. Peacock, GM-14, a civil engineering manager at Tactical Air Command Headquarters, proposed a study of the Air Force Suggestion Program in relation to Air Force Civil Engineering organizations (24). In that proposal, Mr. Peacock offered three observations:

1. Civil Engineering receives the vast majority of suggestions for evaluation.

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2. Civil Engineering spends considerable man-hours in evaluating those suggestions.

3. Very few suggestions approved by Civil Engineering organizations are of significant benefit to the Air Force [24].

Although the Air Force Suggestion Program had recent documented success, Peacock's observations indicated that additional research was required to identify ways to improve the program. The study reported in this document undertook that task. It objectively analyzed the Air Force Suggestion Program and its relationships with Air Force Civil Engineering organizations to further investigate and quantify Peacock's observations. The special interest in suggestion programs shown by the Secretary of Defense made this research both necessary and important.

Statement of Research Objectives

The objectives of this study, then, were to measure the attitudes of Air Force Civil Engineering and Air Force Suggestion Program personnel concerning the Air Force Suggestion Program and to determine whether the evaluation of suggestions by Air Force Civil Engineering organizations is cost effective.

Specific Subobjectives

To achieve the research objectives, the following six subobjectives guided the investigation:

1. Determine how the Air Force Suggestion Program compares with other suggestion programs nationwide.

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2. Measure the perceptions and attitudes that Air Force Civil Engineering personnel have about the effectiveness of the Air Force Suggestion Program as it currently operates. "Effectiveness" is defined as a combination of the suggestion program's ability to produce actual cost savings, improve communication between employees and managers, increase employee involvement in problem solving, and improve employee morale.

3. Measure the perceptions and attitudes that Air Force Suggestion Program personnel have about the effectiveness of the Air Force Suggestion Program as it currently operates.

4. Compare the perceptions and attitudes of the civil engineering personnel with those of the suggestion program personnel.

5. Determine whether the benefits to the Air Force derived from suggestions approved by civil engineering organizations outweigh the costs incurred by civil engineering organizations in evaluating all suggestions. The "benefits" are defined as the tangible cost savings that result during the first year after a suggestion is implemented.

6. Determine what, if any, changes should be considered to improve the attitudes of civil engineering and suggestion program personnel and to reduce the evaluation costs incurred by civil engineering organizations.

Research Questions

To accomplish the six research objectives, sixteen research questions were developed:

1. What are the similarities and what are the differences between the Air Force Suggestion Program and other suggestion systems that are members of the National Association of Suggestion Systems?

2. How do the values recorded by the Air Force Suggestion Program compare to the national average values compiled by the National Association of Suggestion Systems for the following statistics?

    a. Percent participation, defined as the number of suggestions received divided by the number of employees eligible to submit a suggestion.

    b. Percent adoption, defined as the number of suggestion adopted divided by the number of suggestions received.

    c. Dollars saved per eligible employee, defined as the dollar value of the tangible benefits that result from adopted suggestions divided by the number of employees eligible to submit suggestions.

    d. Average cash award, defined as the dollar value of the cash awards paid divided by the number of cash awards paid.

3. Overall, are the attitudes of civil engineering personnel towards the suggestion program favorable or unfavorable?

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4.   Overall, are the attitudes of suggestion program personnel towards the suggestion program favorable or unfavorable?

5.   Overall, how do the attitudes of civil engineering personnel compare to those of suggestion program personnel?

6.   Which of the variables measured in this study are significant in determining whether the attitudes towards the suggestion program are favorable or unfavorable, both within the two groups of personnel and between the two groups of personnel?

7.   What ideas do civil engineering personnel have for improving the suggestion program?

8.   What ideas do suggestion program personnel have for improving the suggestion program?

9.   What are the similarities and what are the differences between the recommendations of civil engineering personnel and the recommendations of suggestion program personnel.

10.   What percentage of all suggestions submitted Air Force-wide are sent to civil engineering organizations for evaluation?

11.   What percentage of all suggestions sent to civil engineering organizations for evaluation Air Force-wide are adopted?

12.   What types of suggestions are sent to civil engineering organizations for evaluation?

13. What percentage of the total number of suggestions sent to civil engineering organizations for evaluation Air Force-wide does each type of suggestion represent?

14. What are the benefits (in dollars) of the suggestions approved by civil engineering organizations?

15. What are the costs (in dollars) of evaluating the suggestions submitted to civil engineering organizations for evaluation?

16. How do the benefits of the approved suggestions compare with the evaluation costs incurred by civil engineering organizations?

Scope and Limitations of the Study

The attitude and benefit/cost data were collected only from Air Force bases located within the continental United States (CONUS). The only data included in the benefit/cost portion of the study were those for suggestions that were evaluated by Air Force Civil Engineering organizations. Regarding the ideas for improving the suggestion program, the goal of this research was not to determine which specific improvement ideas were the best, but only to report the ideas that were collected.

II. Background and Literature Review

Chapter Overview

This chapter provides background information on suggestion systems and reviews the literature relating to those systems. The first two sections provide background information, including the definition of a suggestion system, the purposes for establishing and costs of operating a suggestion system, the history of suggestion systems, and a description of the Air Force Suggestion Program. Through a review of the periodical literature and National Association of Suggestion Systems publications, the last two sections discuss the factors which affect the success of suggestion systems and report the results of empirical research which has been carried out on suggestion systems. In this report, the terms suggestion system and suggestion program are synonymous.

Background Information on Suggestion Systems

Definition. Vincent G. Reuter, an Associate Professor of Management at Arizona State University who has conducted suggestion system research, defines a suggestion system as

> a formal, definite procedure established and controlled by management to actively solicit voluntary constructive ideas from employees towards improving various aspects of the company operations, services, or products, and then to ensure the implementation of acceptable ideas while giving a suitable reward to the suggesting employee [27:78].

Milton Tadder, a past director of the National Association of Suggestion Systems, has asserted that any system which does not follow a prescribed legal format cannot be called a true suggestion system (3:75). Tadder, citing the National Association of Suggestion Systems booklet, Legal Guidelines, identified five requirements necessary for a suggestion to constitute a binding contract between an employee and his employer:

1. It poses a problem, potential problem, or offers an opportunity.

2. It presents a solution.

3. It is written on an official suggestion form.

4. It is signed by the employee.

5. It is delivered through the proper channels [3:75].

Tadder further stated that the rules and procedures governing the system must be available to all employees and should be summarized on the official suggestion form (3:75).

Purposes. In 1976, Kristine Olsen wrote in Personnel Management, "Participation is the name of the game in management today" (23:36). Ten years later, such popular management guides as In Search of Excellence and A Passion for Excellence endorse the same idea. The continued emphasis on the idea of employee participation in productivity improvement has been in part due to the success of Japanese management techniques (9:106). Ellis asserts that the success of the Japanese management techniques is a natural result of Japan's communal culture and that attempts to copy

the Japanese management philosophy in this country have not been as successful (9:106). Because Americans are, in general, individualists, he believes that suggestions systems are the ideal way to allow individuals' ideas to be recognized and to be used to improve productivity (9:106). According to Olsen, however, the improvement of productivity through improving the quality and/or quantity of a firm's products or services is not the only reason for the establishment of a suggestion program; another important purpose is to improve human relations (23:37).

Allen Bergerson, Suggestion Plan Administrator for the Eastman Kodak Company (the longest continuously operated suggestion system in the United States), divides Olsen's "human relations" purpose into two dual purposes. He states that suggestions make management aware of matters that concern employees, while suggesters have the satisfaction of knowing their ideas will be evaluated (2:33). Stating the human relations purpose another way, suggestion systems serve as a "communications medium among people at different levels of the company" (2:33). Berman, in an article about the Blue Cross/Blue Shield suggestion program, cites two other purposes: to improve employee morale and to encourage employees to think about ways to do their jobs better so that management can avail itself of the total employee (3:22).

Bergerson lists three assumptions which must be understood before a suggestion program can accomplish its purposes:

1. Employees, having the most intimate contact with their jobs, can develop valuable ideas to improve their productivity and their working conditions.

2. Management must encourage its employees to submit their ideas so that potential benefits are not lost.

3. The individual who has a worthwhile idea deserves full credit for it and should be rewarded in proportion to its value (2:33).

Five collateral benefits mentioned by many writers that can be realized from a well-run suggestion system are listed below. Each benefit relates to one or more of the four purposes stated above:

1. Allows an outlet for those ideas whose benefits cannot be easily stated in dollars (1:21).

2. Improves job safety (27:78)(2:33)(3:22).

3. Increases employee job satisfaction (27:78).

4. Increases employee participation in company activities (1:21).

5. Increases employee interest in the progress of the organization (27:78).

Costs. The costs of operating a suggestion system are high, according to Reuter, who divides the costs into four categories. The costs consist of

1. training administrators

2. promotions and publicity

3. awards

4. the time of top-level managers, system administrators, supervisors, and employees (27:80).

Despite the high costs, National Association of Suggestion Systems statistics show that well-run programs usually have benefits that exceed costs by a "margin of from 2 to 1 to ratios greater than 10 to 1" (27:80).

History. Olsen states that suggestion systems represent the oldest form of participatory management (23:36), although the exact time and place that suggestion systems began is unclear. A 1980 historical account in Personnel Journal, which was adapted from a National Association of Suggestion Systems account, states that early in the 19th century, an English ship-builder named Denny realized that his employees were knowledgeable and skillful. Denny told his workers that he wanted to hear from anyone who had a good idea about how to build better ships. Denny's system was not formal, but it expressed the basic goal of today's suggestion systems: getting ideas from people (33:553). In contrast, Olsen claims that the first suggestion system was established in 1867 at the Krupp Works in Essen, Germany (23:36). Olsen places the establishment of Denny's system during 1880 (23:36) rather than "early in the nineteenth century."

A few years later, the United States got its first informal suggestion program when the Yale & Towne Manufacturing Company hung a wooden box on a plant wall (33:553). However, credit for the first formal suggestion system in the United States is widely given to the National Cash Register Company for the program it established in the 1890's (33:553)(23:36).

In 1898, George Eastman, inventor and founder of the Eastman Kodak Company, started a system to reward employees for their good ideas (2:32)(33:553). He believed that the success of any business depended on the constructive thinking of everyone involved in it (2:32). The Kodak system, which is still going strong today, is the oldest continuously operating suggestion program in the United States (2:32)(33:553). It began with a $2 award to a man who pointed out the advantages of washing windows in the production department (16:70). Between 1898 and 1977, more than 1.8 million suggestions were submitted by Kodak employees and over 600,000 were adopted. As of 1977, Kodak people were receiving more than $1.5 million a year for their ideas (2:32-33).

In the early 1900's, such well-known companies as Dennison Manufacturing, Parke Davis Pharmaceuticals, General Electric, Westinghouse, and Metropolitan Life Insurance established company suggestion systems. Most of these systems are still active (33:553). Nonetheless, the use of

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suggestion programs by American business is not universal.
(16:67). According to Levy, only 60% of all companies with
more than 1,000 employees have suggestion systems and only
375 (16:67) to 400 (26:7) of the top 500 American
corporations have such systems.

Military suggestion systems were first considered
during World War I when the government predicted that
companies could convert to the production of war material
much faster if their employees' ideas were solicited and
used (33:553) but formal suggestion programs weren't
inaugurated by the military until the critical days of World
War II. Government officials were trying to seize every
opportunity that would improve the speed and efficiency of
government operations so that money, manpower, and materiel
could be conserved. With that motive, the War Department,
on June 2, 1943, established a program to provide incen-
tives for its approximately one million civilian employees
(35:18). The program, called "Ideas for Victory," provided
cash incentives for employees to find and suggest short-cuts
and improvements in department operations (14:14). Anyone
could participate, but only civilians could receive cash
awards. In 1965, after more than 22 years of operation,
Congress finally approved the payment of cash awards to
military personnel (14:14)(27:79).

Today suggestions systems operate in many countries
outside the United States. Many large British firms have

programs (16:70), as do firms throughout the rest of Western

Europe and Canada (23:36). Noncapitalist nations also

participate in the movement. For example, the Soviet Union

has a national program called the "Improver's Movement,"

which pays workers 10% of the first-year's savings (tax-

free) which result from their ideas (16:70).

The Air Force Suggestion Program

The U. S. Air Force Suggestion Program is governed by

AFR 900-4, The Air Force Suggestion Program, which provides

the following overview of the program:

> The Air Force encourages voluntary participation in
> improving efficiency, economy, and effectiveness of the
> Air Force, Department of Defense (DOD), and federal
> government operations. Recognition for resulting
> improvements and benefits may be a cash award, noncash
> award, or an honorary award. The Air Force Suggestion
> Program, when clearly endorsed and vigorously supported
> at all levels on a continuing basis, contributes
> significantly to improving government productivity and
> services [6:5].

The Air Force suggestion process starts when individuals

submit their ideas using AF Form 1000, "Suggestion."

Eligibility Rules. AFR 900-4 gives two basic criteria

for any suggestion. The suggestion must be the suggester's

own idea and it must be complete. A complete suggestion

states the problem that exists, what solution should be used

to solve the problem, and how that solution will benefit the

Air Force or United States government (6:5). In addition,

before a suggestion is eligible for evaluation, AFR 900-4

requires the suggestion to do at least one of the following:

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1. Simplify or improve operations.

2. Save time required to accomplish a task.

3. Speedup production.

4. Increase output and enhance productivity.

5. Improve working conditions, procedures, operating methods or equipment, plant layouts, and organization.

6. Save material or property.

7. Save manpower or money.

8. Promote health.

9. Increase safety.

10. Improve morale through desirable and feasible personnel services that increase productivity.

11. Save energy.

12. Hold down procurement costs [6:11].

Examples of Ineligible Suggestions. AFR 900-4 also provides specific examples of ineligible suggestion types. A suggestion will be rejected without evaluation when it:

1. Is a complaint.

2. Is vague, incomplete, or deals with generalities or opinions.

3. Proposes a study or review be made without offering the necessary guideline data to be used for research.

4. Merely calls attention to word omission or a typographical or printing error that would usually be corrected during scheduled review and does not cause misinterpretation or error.

5. Proposes realignment of text or an addition of a word(s) when there has been no serious misunderstanding or errors reported.

6. Suggests a form be developed, revised, or changed

in construction, without specific proposals for improvement. Suggests a form be padded, carbon-interleaved, constructed in snap out sets, or printed on both sides of a page to save paper. However, if it changes the format because of a problem and includes one of these recommendations, it is eligible. It will be sent to the user or the OPR for evaluation.

7. Has been determined by the Suggestion Program Manager not to be the suggester's own idea.

8. Proposes a change in housekeeping practices or routine maintenance of buildings or grounds. However, if the suggestion increases safety, saves property or material, improves working conditions or has the potential for improved use of energy resources that may result in tangible or intangible benefits, then a suggestion may be accepted.

9. Suggests the issue and use of items in the Air Force, DOD, or federal stock for their intended purposes.

10. Would benefit an Air Force contractor.

11. Proposes improvements to nongovernment activities.

12. Proposes changes to off-the-job activities.

13. Offers ideas or designs for posters, slogans, contests, advertising, or promotional material.

14. Recommends the enforcement of an existing law, regulation, directive, or procedure.

15. Proposes changes to technical orders that are still in the verification process.

16. Duplicates another suggestion already in the evaluation chain or previously evaluated, approved, or disapproved for adoption.

17. Suggests improvements to nonappropriated fund activities.

18. Suggests that routine operations be carried out.

19. Proposes services that benefit employees in a personal way rather than increasing productivity [6:11-12].

Suggestion Evaluation. Each Air Force Base has a Suggestion Program Manager who receives all suggestions from base personnel. The Suggestion Program Manager first determines whether or not each suggestion is eligible for the program. If the suggestion does not meet the eligibility requirements outlined above, the Suggestion Program Manager returns the suggestion to the suggester with an explanation of why the suggestion is ineligible. If the suggestion is eligible for the program, the Suggestion Program Manager determines who the office of primary responsibility (OPR) will be for the suggestion's evaluation. The Suggestion Program Manager then sends the suggestion to the OPR for evaluation (6:16-17).

The OPR must promptly evaluate each suggestion using AF Form 162, "Suggestion Evaluation and Transmittal" (6:20). For suggestions affecting only one installation, the OPR is allowed 30 calendar days to complete the evaluation. OPR's at the major command and headquarters Air Force levels are allowed an additional 60 calendar days and 90 calendar days, respectively, to complete their evaluations (6:27-29). AFR 900-4 encourages OPR's to contact the suggester whenever additional information or a clarification is needed (6:21).

When the OPR approves a suggestion, often a separate document is required to implement the suggestion. In those cases, the evaluating OPR is required to complete that document and send a copy of it along with the completed AF

Form 162 to the Suggestion Program Manager (6:23). In the case of an approved suggestion, the Suggestion Program Manager then follows the status of the suggestion's implementation until implementation is complete. If the suggestion is disapproved by the OPR, the Suggestion Program Manager returns the suggestion to the suggester with the reasons for disapproval clearly stated.

Awards. Only after a suggestion is fully implemented can the suggester be considered for a cash award (6:35). The base commander can delegate the approval of cash awards of up to $500 to the Suggestion Program Manager. Awards above the Suggestion Program Manager's approval authority must be reviewed by the Suggestion Awards Committee (6:41).

The awards for suggestions which result in tangible benefits (benefits that can be measured in dollars) are calculated using Table 9-2 of AFR 900-4, which is reproduced in this report as Figure 2.1. To use the table, the Suggestion Program Manager must first establish the value of the tangible benefits that resulted from the suggestion. AFR 900-4 defines tangible benefits as "the estimated net benefits for the first full year of operation" (6:37). Once the value of the tangible benefits has been established, one of the four formulas in the table is used to determine the size of the cash award. For tangible benefits under $250, there is no cash award. For tangible benefits from $250 to $10,000, ten percent of the benefits is paid. For tangible

Figure 2.1

Scale for Computing Awards for Tangible Benefits

R U L E	A — If the amount of the benefit is	B — then the amount of the award is
1	less than $250	no cash award.
2	$250 - $10,000	10 percent of benefits.
3	$10,001 - $100,000	$1,000 for the first $10,000, plus 3 percent of benefits over $10,000.
4	$100,001 or more	$3,700 for the first $100,000, plus 0.5 percent of benefits over $100,000.

NOTE:

Round off amount of awards and benefits to the nearest $1.

benefits from $10,000 to $100,000, $1,000, plus three
percent of the benefits over $10,000 is paid. Finally, for
tangible benefits greater than $100,000, $3,700, plus 0.5
percent of the benefits over $100,000 is paid (6:42).

Awards for suggestions which result in intangible
benefits (benefits that cannot be measured in dollars) are
calculated using Table 9-3 of AFR 900-4, which is reproduced
in this report as Figure 2.2. To use the table, the "value
of the benefit" is classified as either moderate, substan-
tial, high, or exceptional and the "extent of application"
is classified as either limited, extended, broad, or
general. The size of the award is found at the intersection
of the row containing the value of the benefit and the
column containing the extent of application.

Figure 2.2

Scale for Computing Awards for Intangible Benefits

	A	B	C	D	E
		EXTENT OF APPLICATION			
L I N E	**VALUE OF BENEFIT**	**LIMITED** — Affects functions, mission, or personnel of one office, facility, installation, or single headquarters.	**EXTENDED** — Affects functions, mission, or personnel of several offices, facilities, installations, one or several commands.	**BROAD** — Affects functions, mission, or personnel of all commands. May apply to the entire Air Force.	**GENERAL** — Affects functions, mission, or personnel of several agencies of an entire department or large agency, or is in the public interest for the Nation.
1	MODERATE VALUE-- Slight change or modification of an operating principle or procedure which is an improvement of rather limited value to a product, activity, or program.	$25-100 (compare w/ $250-1,000 tangible benefits)	$100-250	$250-500	$500-1,000
2	SUBSTANTIAL VALUE--Substantial change or modification of an operating principle or procedure which is an important improvement to the value of a product, activity, or program	$100-250 (compare w/ $1,000-2,500 tangible benefits)	$250-500 (compare w/ $2,500-5,000 tangible benefits)	$500-1,000	$1,000-2,500
3	HIGH VALUE--Complete revision of a basic principle or procedure which is a highly significant improvement to the value of a product, activity, or program	$250-500	$500-1,000 (compare w/ $5,000-10,000 tangible benefits)	$1,000-2500 (compare w/ $10,000-60,000 tangible benefits)	$2,500-5,000
4	EXCEPTIONAL VALUE--Introduction of a new principle or major procedure; a superior improvement to the quality of a critical product, major activity, or program	$500-1,000	$1,000-2,500	$2,500-5,000 (compare w/ $60,000-360,000 tangible benefits)	$5,000-10,000 (compare w/ $360,000-1,360,000 tangible benefits)

NOTE: The minimum award for tangible benefits can be granted only when the benefits reach or exceed $250. The minimum award for intangible benefits requires a comparably high standard.

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Computer Support. The Air Force Suggestion Program
Data System is an "automated system designed to support
tasks associated with the administration of the Air Force
Suggestion Program" (6:7). The computer system includes
computers at every base and a central computer located at HQ
AFMPC, Randolph AFB, Texas, which are used to track the
status of all suggestions and to compile data for reports.

Factors Which Affect the Success of Suggestion Systems

According to the literature, the success of all
suggestion systems, including the Air Force Suggestion
Program, depends on at least nine factors, listed below. In
view of the fact that approximately 90% of the suggestion
systems started in the United States before 1977 had been
abandoned by that year (13:450), this section presents a
discussion of the key ideas encountered in the literature
relating to each factor. The nine factors are

1. Strong suggestion system administration.

2. Top-management support.

3. Supervisory support.

4. Employee involvement.

5. Well-established policies and procedures.

6. Aggressive promotion and publicity.

7. Timely and thorough evaluations.

8. Active suggestion committee.

9. Significant rewards.

Strong Suggestion System Administration. According to
Tatter, the suggestion program administrator is the pro-
gram's "vital ingredient--the sales arm, coordinator, and
trouble-shooter" (34:9). Reuter claims that the chief duty
of the suggestion system administrator is to ensure the
prompt evaluation of suggestions. If employees don't have
confidence that their suggestions will receive prompt and
impartial treatment, participation rates will suffer
(27:86). Another important responsibility of the system
administrator is to ensure that accepted suggestions are
implemented. It is important to the suggester and to the
company that accepted suggestions be put into practice
(13:452). According to Reuter, one of the main reasons for
the death of any suggestion system is that the adminis-
trator of the program is forced to wear too many hats, or
occupy too many jobs (27:86).

Top Management Support. While strong suggestion
program administration is important, all writers agree that
top management support is the most important factor neces-
sary for the success of a suggestion program. Reuter calls
it "the most outstanding factor contributing to success"
(26:11). He stresses that top management must be willing to
pay employees to compose, revise, and evaluate suggestions
as well as to administer the program.

Paul Bailey, a past president of the National
Association of Suggestion Systems, believes that top

managers need to see their companys' suggestion programs as

an opportunity for self-development for all employees and

recognize those employees who make suggestions that result

in significant savings (33:555). They must ensure that

adequate cash and other awards are available and are

promptly presented to deserving employees; otherwise,

employees will quickly abandon the system (26:11).

Shirley Wade, Air Force Suggestion Program

Administrator, believes top management support and strong

program administration are the two key elements that lead to

the success of a suggestion program. In her words, those

elements are, "command support--at all levels--and the

capabilities and motivation of the base-level suggestion

program manager" (14:15).

Olsen divides the attitudes of top management regarding

suggestion systems into three categories:

> 1. Those who think that the industrial relations value
> alone must justify the creation or continued existence
> of a suggestion system in a company even if the money
> saved annually from the suggestions is less than the
> total costs involved in running the system.
>
> 2. Those who think that any operation in a company
> must be made to function profitably in order to justify
> its continued existence and that the true value of a
> suggestion system comes from the savings to costs ratio
> for its annual operation.
>
> 3. Those who have always been of the opinion that
> their company does not need a suggestion system because
> employee's ideas are considered and rewarded in the
> system of communication already established in the
> company [23:39].

Lee A. Graf, an Associate Professor of Management at Illinois State University, believes that when any of the other eight factors which affect the success of suggestion systems are not present in sufficient quantities, the cause can be traced to a lack of top management support for the suggestion program (13:453). Graf lists six actions that can be taken by a firm's suggestion program administrator to gain top management support when it is lacking. They can give top management:

1. regular reports on the results of the suggestion program.

2. information about the suggestion systems of other firms.

3. a chance to participate in awards ceremonies.

4. examples of promotional material.

5. proof that the suggestion system is a profit-making venture.

6. proof that the suggestion system assists in such activities as manpower utilization, simplification of work, safety, recruitment, and community relations (13:454).

Supervisory Support. Support by top management alone is not sufficient to ensure the success of a suggestion system. Top management must ensure that all levels of management, including supervisors and foremen, are well versed in the system and are supporting it (26:11). The

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specific actions that are required by supervisors to support their firm's suggestion program are the following:

1. Motivate subordinates to improve their performance (13:453).

2. Demonstrate by action, word, and attitude that management wants and needs employee suggestions (13:453).

3. Actively encourage subordinates to submit suggestions (27:82)(13:453).

4. Assist those subordinates who have difficulty with written communication in filling out the suggestion form. (27:82)(13:453).

Graf, in his 1982 review of 33 articles and studies relating to suggestion systems, concluded that supervisors' attitudes toward their company's suggestion program have a "marked effect on its success" (13:453). Graf cited the results of three studies that led him to that conclusion. The first study, by Carr, found a positive correlation between supervisory encouragement and suggestion program participation. The second study, by Hardin, found that departments which had the poorest showing in the area of suggestion programs, had supervisors who considered the program a criticism of their ability. Conversely, successful programs were headed by supervisors who encouraged their employees to participate in the program and made their employees feel that, by participating in the program, they

were helping to support their department's efforts. Finally, a survey of over 750 companies found that 90 percent of the companies with operating suggestion systems provided assistance to employees in completing suggestions. Of the firms no longer having a suggestion system, only 21 percent had provided such assistance (13:453).

Despite all the evidence that shows the importance of supervisory support, there are reasons why supervisors may not provide the needed support. Reuter lists seven such reasons. Supervisors may

1. fear that a good employee may make them look bad.

2. feel that evaluating suggestions consumes too much of their valuable time.

3. resent ideas circumventing them.

4. want training and help in evaluating suggested ideas.

5. be jealous of their employees' awards and recognition.

6. doubt the value of the program.

7. not feel a part of the program [26:12].

D. W. Myers, an Associate Professor of Management at Virginia Commonwealth University, adds an eighth reason. He believes that the biggest criticism supervisors have of suggestion systems is that the suggestion box is more often used as a "repository of complaints" rather than a "depository for ideas" (17:37). There is evidence to the contrary, however. Charles Foos, manager of the suggestion system at United Air Lines, states that of the approximately 30,000

suggestions processed by his system over the past few years, he could think of only three in the "nuisance or gripe category" (16:68).

An example from the Air Force Suggestion Program that illustrates the need for supervisory support was reported in a 1983 TIG Brief (11:2). That TIG Brief focused on a suggestion that was submitted to purchase aircraft avionics test stations directly from the vendor rather than through the aircraft prime contractor. The suggestion resulted in an estimated $18 million first-year savings to the Air Force and a cash award to the suggester of $18,800 (11:2). Getting the suggestion past his immediate supervisor, though, had proven to be difficult for the suggester. Verne Orr, then Secretary of the Air Force, had this to say about the situation:

> As hard as we are trying to save money and run the Air Force in a more efficient manner, it is unfortunate that some of our people are so resistant to change. One aspect of the award disturbs me. Apparently, the individual had to go around the system instead of through it to get his suggestion accepted because of the reluctance of his immediate supervisors to take implementation action. The interest and support of managers and supervisors sets the climate which either encourages or discourages individuals with money-saving ideas. Aggressive support of the suggestion program at all levels leads to good suggestions and shows the American public that Air Force managers are conscientious stewards of public funds [11:2].

Top management should take some or all of the following actions to ensure that they have support for their suggestion program from their supervisory personnel:

1. Allocate time and effort to properly orient new supervisors about the true nature and benefits of the firm's suggestion program (27:84).

2. Stimulate supervisors to develop the attitude that suggestion system work is a part of their regular management duties (27:84).

3. Make it clear that supervisors will not be criticized if one of their employees provides a good idea (26:11).

4. Make support for the suggestion program one component of the supervisor's job-performance evaluation (34:8)(13:451)(27:85)(33:555).

5. Pay incentive awards or give other recognition to the supervisors of suggesters (28:3)(27:85). The General Motors Corporation recently implemented such an incentive plan (28:3).

Employee Involvement. Employees must view their firm's suggestion system as a viable way to effect change in their organization (2:34). To ensure that employees are involved in their firm's suggestion program, management can take several actions.

Writers agree that top management must allocate time and personnel to educate employees in all aspects of the suggestion program and how to use it (27:87). That training should include giving examples of the types of ideas desired and training in how to observe problems and write up

solutions to them (27:87). Firms that give such training

find that they receive both more ideas and better quality

ideas that provide larger average rewards (27:87). They

have an acceptance rate of one-out-of-three versus the

national average acceptance rate of one-out-of-four (26:12).

As an example, Maytag Corporation gives each employee a ten-

hour course in work simplification. One writer suggests

providing each employee with a suggestion program booklet

that explains the program (33:554). According to Graf, at

least one company (the Ford Motor Company) currently

distributes such a booklet (13:450). Trained personnel

generate more suggestions, and generating more suggestions

pays off, according to Phillip Kotler. Kotler, a marketing

expert, has found that, "the greater the number of ideas

generated, the better the best ones are likely to be"

(15:31-32).

Reuter believes that management must assure employees

that the suggestion program will not result in layoffs due

to labor-saving suggestions. He suggests that a way to

accomplish that is to convince employees that management

planning has resulted in a backlog of projects that, due to

the nonavailability of manpower, have been deferred until

such time as there is a temporary surplus of manpower

(27:87).

Once employees have been trained and have been assured

that they are not going to lose their job because of an

adopted suggestion, the next step is to convince employees
that the company cares enough to give them an adequate and
timely answer to their suggestions and that they will be
adequately rewarded for their adopted suggestions (33:554).

Finally, employees should be made to feel that their
supervisor expects them to make good suggestions and that if
they do so, they could gain reputations as "idea people" and
thus be more eligible for promotion (33:554).

Well-Established Policies and Procedures. Before a
company can train its employees about its suggestion
program, the policies and procedure that are the basis of
that training must be established. Graf states that one
major cause of suggestion program failure is "the lack of
set policies or rules concerning such things as what people
can participate in the program, how they can participate,
what is done if duplicate suggestions are submitted, or what
will happen to those who have jobs that may be eliminated as
a result of an accepted suggestion" (13:450). A company's
suggestion policy must also include procedures for determin-
ing the size of the cash awards, a means for handling
suggestions promptly, ways to clearly explain rejections to
suggesters, and ways to give continuous publicity about the
program to encourage participation (2:33).

Aggressive Promotion and Publicity. Reuter states that
"aggressive promotion and publicity must precede and accom-
pany installation of a suggestion system so that employees

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will be acquainted with the values of the system and how it operates" (27:88). All the writers agree that, in addition, there must continual, subtle, marketing along with periodic contests and well-publicized recognition of suggesters and their supervisors for interest to be maintained. Without publicity, suggestion systems will experience a gradual reduction in participation rates (34:8)(27:88)(13:450).

Reuter emphasizes that the campaigns should appeal to the employees' "thinking power" (26:13). Some of the ways firms promote their suggestions systems are through posters, pamphlets for new staff, and stuffers in pay envelopes. Some suggestion systems give out token awards just for submitting a suggestion, such as key rings, polaroid sunglasses, tape measures, coffee mugs, and chamois leathers (13:450-451). One writer recognizes that too much publicity has the potential to be harmful. Berman states that when you encourage people to produce suggestions, the number of "worthless" suggestions increases (3:75).

Timely and Thorough Evaluations. The prompt and complete evaluation of suggestions is another important factor that determines whether or not a suggestion system will be successful. Tatter claims that the evaluation process forms "the heart" of a suggestion system (34:9). A 1979 study by the General Accounting Office (GAO) found that one of the reasons for poor participation in government suggestion systems was a widespread belief among employees

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that their suggestion would not be fairly evaluated. The GAO also said that failure to process suggestions promptly "can be fatal to a suggestion system" (12:79).

Reuter states that there needs to be a follow-up system for suggestions under evaluation to ensure their evaluation is completed promptly (27:88). Such a system is necessary because when the suggestion evaluation process takes too long, the immediate result will be "apathy and defeatism" among company employees and ultimately the suggestion system will fail (27:88). This is true because slow evaluations give employees the feeling that management does not view suggestions as being very important (26:14). Slow evaluations usually result because evaluators view the evaluation of suggestions as additional work to which they can assign a low priority (5:1).

Myers wrote in his 1982 article,"Turning Down a Suggestion Without Turning Off the Suggester," that since disapprovals normally outnumber approvals by four to one, one of the reasons many evaluators dislike doing suggestion evaluations is that they find it especially hard to write a good disapproval (18:3). Highlightinc the importance of this point, Reuter claims that poorly composed rejections cause "bitterness and a defeatist attitude" toward suggestion programs (26:14). Addressing the problem in his article, Myers states a list of five axioms that, if adhered to by suggestion evaluators, can make the evaluation of

suggestions "less distasteful" and help to eliminate five common negative responses that disapprovals may evoke in suggesters. Myers' five axioms are:

1. Be adoption minded. Employees will more readily accept disapprovals from supervisors possessing reputations for making conscientious efforts to understand and adopt ideas.

2. Expedite suggestion evaluations. Failure to make prompt evaluations leads employees to believe that their ideas will be used with someone else getting the credit.

3. Use discussions. A personal face-to-face meeting between suggester and evaluator helps to eliminate all of the five negative responses.

4. Use advantage/disadvantage explanations in suggestion evaluations.

5. Implement trials. Testing ideas is the best way to see if they will work and also the best way to illustrate to suggesters why they will not work (18:3-4).

Figure 2.3 lists the five negative responses the axioms are intended to prevent and graphically portrays which axioms prevent each of the negative responses (18:23).

Although keeping the processing time as short as possible is extremely important to the success of a suggestion system, evaluations must be thorough as well as timely to be effective. In order for an evaluation to be thorough, there are three steps that should be taken by the evaluator during each evaluation:

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Figure 2.3

Five Axioms to Prevent
Negative Responses to Suggestion Disapprovals

AXIOM NEGATIVE RESPONSE	Adoption-Minded	Expedite Suggestion Processing	Use Discussions	Use Advantage/Disadvantage Explanations	Implement Trials
Why won't it work?			O	O	X
It wasn't considered	X		X	O	O
Ideas aren't wanted	X	O	X		
My idea wasn't understood			O	X	O
They stole my idea	O	X	X		

O Axioms that help prevent specific negative responses to disapprovals.

X Axioms that are particularly effective in preventing negative responses (18:23).

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1. The evaluator should personally interview the suggester to get additional information (33:557)(2:35).

2. If the idea is not fully developed, the evaluator should work with the suggester and the suggester's supervisor to make the suggestion complete (5:2).

3. If suggestions are rejected, the evaluator should personally explain the reasons to the suggesters, thank them, and encourage them to try again (27:88).

Good suggestion systems also provide an appeals process for suggesters to pursue if they feel their suggestion has not received a fair and thorough evaluation (13:452).

Ideally, every suggestion would receive a complete and thorough evaluation as described above. In many large firms, however, in order to minimize suggestion evaluation costs, there is a pre-screening process during which the suggestions are given a quick review, usually with no data, so that only those suggestions that seem "half-way feasible" are fully evaluated (4:32). A 1975 study of 72 firms found that 69.2 percent of the 39 large firms included in the study had a pre-screening process. Only 33.3 percent of the 33 small and medium firms included in the study had such a process (4:32).

Davies, in his 1986 article, offers two ideas to help ensure that suggestion evaluators will give prompt and thorough evaluations. He states that the total number of evaluators should be limited and that a recognition system should be developed for suggestion evaluators (5:1).

Active Suggestion Committee. Because a committee decision is more acceptable to a suggester than the decision of a single individual (32:1), suggestion committees were originally the controlling body for suggestion systems (27:87). They established the rules, procedures, and policies and reviewed every suggestion that was submitted (27:88). Today, however, suggestion committees are usually not involved with the day-to-day operation of the suggestion system; they are more of a policy-making body (27:88).

The main function of suggestion committees today is to make sure that all suggestions receive the same treatment when decisions on eligibility and awards are made (27:88). Other functions that suggestion committees often are responsible for are assisting in promotion and publicity, handling system problems in an advisory capacity to the suggestion system administrator, and making recommendations for improving the system.

A 1985 National Association of Suggestion Systems article, "Structuring a Suggestion Award Committee," lists six important characteristics of an active, successful, suggestion committee:

1. The company president should act as the official committee chairman to add credibility to the committee and an acting chairman should be elected from among the members.

2. Ideally, the committee should be composed of

between five and nine members, but each major area

of the firm should be represented.

3. Each member of the committee should be an officer

of the company or hold a position and title

representing upper management.

4. Weekly committee meetings should be held.

5. A membership kit should be distributed to new

members of the committee.

6. Sub-committees for preliminary screening of

suggestions should be established (32:3).

Significant Rewards. According to Graf, "insignificant

rewards are another reason why suggestion programs often

falter" (13:451). The usual amount of cash awards is 10-15

percent of the tangible benefits which accrue during the

first year after implementation of the suggestion (13:451).

However, two studies cited by Graf indicate that 83 percent

of the suggestions which resulted in cash awards over $1,000

are still being used after five years, and 60% of all

adopted suggestions are still showing benefits 10 years

later (13:451). Graf believes that these examples show that

it would "not be unreasonable to pay a higher percentage to

suggesters to draw out profitable ideas--say 50-75 percent

of the first year's the savings" (13:451).

Empirical Research Findings

Three empirical research projects, described below,

have studied the attitudes of managers about suggestion

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systems in relation to other management tools, their
attitudes about suggestion systems alone, and the effects of
two different solicitation techniques on the quantity and
quality of suggestions submitted. The three studies produced
some useful, yet somewhat conflicting, results.

The first study, carried out by Reuter, determined the
extent to which 40 selected management tools and techniques
were used by 228 firms of various sizes in five states
(26:11). The "suggestion system for production operations"
and "the suggestion system for clerical work" were two of
those 40 management tools and techniques.

Participating firms were asked to rank-order the 40
tools and techniques twice: first, in order from least
valuable to most valuable; and second, in order from most
valuable to least valuable. The results showed strong
attitudes against both types of suggestion systems: the
production and clerical suggestion systems came in 1-2 on
the least valuable list, and 28th and 37th, respectively, on
the most valuable list (26:11). This study portrayed
suggestion systems as almost worthless (at least when com-
pared to the other 38 management tools and techniques
addressed). Table 2.1 summarizes the results of the study.

The second study, also carried out by Reuter, surveyed
the president, vice-president, or general manager of 76
firms (27:88). The respondents were asked whether they
agreed, disagreed, or were undecided about twenty-nine

Table 2.1

Results of Research Project Comparing Suggestion Systems
With Other Management Tools and Techniques

Tool	Least Valuable		Most Valuable	
	Rank	Percentage	Rank	Percentage
Suggestion System (Production)	1	51.2	28	3.9
Suggestion System (Clerical)	2	39.5	37	0.5
Profit-Sharing (Production)	3	17.1	11	17.2
Zero Defects	4	14.5	29	3.9
Wage Incentive (Production)	5	13.2	5	25.6
Profit Sharing (Clerical)	6	10.5	16	11.1
Standardization Programs	7	7.9	19	70.0
N = Number of Firms Responding to Question		76		180

statements concerning suggestion systems in three categories
(27:88). The three categories of statements were deterrent,
employee benefit, and employer benefit. The nine deterrent
statements were negative statements about suggestion
systems, such as "It costs too much to implement and run a

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suggestion system." The ten employee benefit statements were positive statements, such as "solves his need for self-expression." The ten employer benefit statements were also positive statements, such as "reduces manufacturing costs."

The results were mostly positive towards suggestion systems. Nearly all (97.5%) of the respondents disagreed with the deterrent statements, 91.8% agreed with the employee benefit statements, and 70.0% agreed with the employer benefit statements (27:88). Thus, when asked to judge only the suggestion system itself, top-level managers gave suggestion systems a very good rating.

The third study compared two approaches for soliciting suggestions from employees: participatory and authoritative (17:42). Managers in the authoritative group were given a quota of suggestions that they were required to obtain from their employees. Managers in the participatory group were allowed to set their own goals for the number of suggestions they would obtain.

The results of the study showed that the authoritarian approach not only generated more suggestions, but more of those suggestions were adopted. In addition, the increased number of adopted suggestions came without any loss in the quality of the suggestions. The researchers determined the quality of the suggestions based on the dollar values of the tangible cost savings the suggestions created (17:42).

Chapter Summary

This chapter provided background information on suggestion systems and reviewed the literature relating to those systems. The chapter began by defining a suggestion system and stating the two principal purposes for establishing a suggestion system: to improve productivity and to improve human relations. Next, it was established that the benefits from suggestion systems usually exceed the costs of operating them.

The next section provided a brief history of suggestion systems including their beginning sometime in the 1800's, their rapid spread in the early 1900's, the establishment of the first government suggestion system during World War II, and the inclusion of military personnel in the program in 1965. Culminating the historical discussion was a detailed look at the Air Force Suggestion Program and its governing regulation, AFR 900-4. The last two sections discussed the nine factors that affect the success of suggestion systems and presented the results of three recent empirical research studies.

III. Methodology

Chapter Overview

This chapter describes the procedures used to accomplish the research objectives and to answer the research questions presented in Chapter I. A combination of three research methods was used: literature review, mail surveys to both civil engineering personnel and suggestion program administration personnel, and the collection of benefit/cost data concerning the actual processing of suggestions by civil engineering organizations. The first section of this chapter briefly discusses the two-part literature review. Next, the development and use of the two mail survey questionnaires is explained. Finally, the two data collection methodologies used to complete the benefit/cost portion of the study are presented.

Literature Review.

The first step taken to answer the research questions was to conduct a two-part review of the literature pertaining to suggestion systems.

Part one of the literature review involved the collection of general background information about suggestion systems with emphasis on the Air Force Suggestion Program. The information collected during part one of the literature review provided the background knowledge necessary to create the survey instruments and to develop the benefit/cost data

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collection methodologies. The results of part one of the literature review were reported in Chapter II.

Part two of the literature review concentrated on the collection of more specific information and statistics needed to answer research questions one and two. Those research questions compared the Air Force Suggestion Program with the programs operated by other members of the National Association of Suggestion Systems so that the results of the other parts of this study could be put in perspective.

The principal documents reviewed in part two of the literature review were the National Association of Suggestion Systems Annual Statistical Reports for 1984 and 1985 (20)(21). These reports give comprehensive statistical information for the suggestion systems operated by the members of the National Association of Suggestion Systems (NASS). Air Force bases are included in the NASS statistics. The results of part two of the literature review are presented in Chapter IV, Presentation of Results.

Mail Surveys

Research questions three through six addressed the attitudes held by Air Force Civil Engineering personnel and Air Force Suggestion Program personnel about the Air Force Suggestion Program (AFSP). Research questions seven through nine addressed the ideas that members of those two groups had for improving the AFSP. Since there was no existing data base that contained the information needed to answer

research questions three through nine, it was necessary to gather the needed information directly from the members of those two groups.

No existing questionnaire was found which would provide all of the needed data, so two similar questionnaires were designed specifically for this project and administered to members of the two groups. In this report, the questionnaire administered to the civil engineering personnel is referred to as the "civil engineering questionnaire" or "questionnaire one." A copy of the civil engineering questionnaire is in Appendix B. Similarily, the questionnaire administered to the suggestion program personnel is referred to as the "suggestion program questionnaire" or "questionnaire two." A copy of the suggestion program questionnaire is in Appendix C.

Survey Populations. Both populations were limited to military and civilian personnel in the two groups who were assigned to CONUS Air Force installations. The populations were limited to personnel assigned to CONUS installations because of the difficulties involved in mailing survey questionnaires to and receiving questionnaires back from personnel assigned to overseas locations. While this limited generalization of results to CONUS personnel, similar results could be predicted from overseas members because the Air Force Suggestion Program is administered under the same regulations world-wide.

Official Air Force figures show that the current total number of Air Force Civil Engineering personnel serving at CONUS installations is 49,850 (25)(31)(36). The first study population included all of these civil engineers with the exception of general officers and Executive Service civilians. Table 3.1 shows the distribution of the entire civil engineering population among officers, enlisted personnel, salaried civilians, and wage-grade civilians. Members of this group play an important part in the Air Force Suggestion Program as suggesters, suggestion evaluators, and suggestion implementers.

The second population under study was those personnel whose sole duties involve the administration of the Air Force Suggestion Program personnel (no civil engineering personnel are included in this population). At the time of this study, 208 of those personnel were stationed in the CONUS (30). The group was comprised of 185 General Schedule (GS) civilians and 23 military personnel. Since members of this group have duties devoted solely to the administration and management of the Air Force Suggestion Program, their attitudes and improvement ideas were important as a basis for comparison with the attitudes and improvement ideas of the civil engineering personnel.

Samples. Emory advocates stratified sampling when more than one research method is to be used in analyzing a population (10:307). That situation was present in this study

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Table 3.1

Distribution of CONUS Air Force Civil Engineering Personnel

Military		
	Officers	1,677
	Enlisted	22,284
	Total Military	23,961
Civilian		
	Executive Service	2
	General Management (GM)	625
	General Schedule (GS)	10,596
	Wage Grade (WG)	12,430
	Work Leader (WL)	392
	Wage Supervisor (WS)	1,844
	Total Civilian	25,889
Total Population		49,850

because both the first survey questionnaire and the field collection of suggestion evaluation costs (discussed in the Benefit/Cost Data Collection section of this chapter) gathered data from the civil engineering population.

Because the size of the base a respondent was stationed at was thought to be an important independent variable affecting responses, the 83 CONUS Air Force Bases were first divided into three categories based on their size. Then, the bases were randomly separated into two groups so that each groups had the same percentage of small, medium, and

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large bases. Appendix A shows which bases were included in each of the two groups and gives the base size category that each base was placed in.

Using the ATLAS data base, a random sample of civil engineering personnel was drawn from the population of civil engineering personnel assigned to the 41 bases in the first group of bases. A total sample of 800 names was selected, broken down into four categories. The sample included 200 officers, 200 enlisted personnel, 188 GS and GM civilians, and 212 WG, WL, and WS civilians. Assuming a 50 percent return rate, this sample size was sufficiently large to allow for a 95 percent confidence level for responses within each category of respondent (10:298).

There were 42 CONUS bases in the second group of bases, which was used to obtain a sample of suggestion evaluation times for the benefit/cost portion of the study. That methodology is discussed in more detail in the Benefit/Cost Data Collection section of this chapter.

Because there were only 208 persons in the second population, the second survey questionnaire was administered as a census to all CONUS suggestion program personnel.

Questionnaire Design. Although designed primarily for the purpose of soliciting data, the questionnaires also included features of format designed to encourage a maximum response rate. The techniques included in the "total design method" as well as other techniques discussed by Emory

(10:173-174) were considered in the questionnaire design. Respondents were guaranteed anonymity and were asked to mark their answers directly on the questionnaires rather than on a separate optical scan answer sheet. The number of questions was kept to a minimum. Because this was exploratory research, the answers to some questions were difficult to predict, so several questions on each questionnaire were "fill-in-the-blank" rather than multiple choice. Space was provided on the last page of both questionnaires for additional comments. A return address was included at the end of the questionnaires in case the return envelope was lost.

Both questionnaires consisted of three basic parts and a "base size code" which was annotated on each questionnaire prior to mailing. Part I of both questionnaires was intended to collect demographic data about each respondent and to determine each respondent's suggestion program experience and knowledge. Since Part I of questionnaire one (sent to civil engineering personnel) was considerably different from Part I of questionnaire two (sent to suggestion program personnel), those parts of the questionnaires are discussed separately below. Parts II and III of the two questionnaires were nearly identical, so the discussion of them is combined.

Part I of Questionnaire One. The five objectives of Part I of the civil engineering questionnaire were to obtain the following information from each respondent:

1. general demographic data.

2. experience in submitting suggestions to the AFSP.

3. experience in evaluating suggestions.

4. attitudes about the size of the cash awards currently being paid by the AFSP.

5. perceptions of the reasons why people submit suggestions to the AFSP.

Part I of Questionnaire Two. The four objectives of Part I of the suggestion program questionnaire were to obtain the following information from each respondent:

1. general demographic data.

2. overall assessment of the quality of the support for the AFSP in terms of submitting suggestions.

3. perceptions about the evaluation support provided by other organizations to the AFSP.

4. attitudes about the size of the cash awards currently being paid by the AFSP.

Part II of the Questionnaires. Part II of the first questionnaire was identical to Part II of the second questionnaire except for one additional question on the first questionnaire. Part II of the first questionnaire consisted of 23 positively worded statements about the AFSP, while Part II of the second questionnaire consisted of 22 such statements. Each respondent was asked to mark his degree of agreement with each statement on a five-point Likert scale.

Part III of the Questionnaires. Part III of the questionnaires was identical. Both consisted of one question which asked the respondents whether they thought the AFSP needed any changes. Respondents who answered "yes" were asked to specify the specific changes needed.

Survey Questionnaire Validation and Approval Process. Questionnaire One (for civil engineering personnel) was pretested for content validity on 22 civil engineering lieutenants, captains, and GS civilians enrolled in the graduate engineering management program of the School of Systems and Logistics, Air Force institute of Technology (AFIT), Wright-Patterson AFB, OH. After the test, the questionnaire was revised to improve the clarity of the questionnaire and the completeness of the answer choices.

To ensure the validity of Questionnaire Two (for suggestion program personnel), the questionnaire was sent to the OPR for the Air Force Suggestion Program, HQ AFMEA/MERS, Randolph AFB, TX, for review and comments. As a result of that review, several minor revisions were made to the questionnaire. Both questionnaires were then submitted to the Personnel Survey Branch, AFMPC, who approved them and assigned them USAF Survey Control Number 86-61, with an expiration date 1 November 1986.

Survey Questionnaire Distribution Process. Address labels were obtained from the ATLAS data base for the military members of the civil engineering sample only. Labels

for the civilian members of the civil engineering sample were manually prepared from the ATLAS-generated random sample. Address labels for the suggestion program personnel were also manually prepared using a list provided by HQ AFMEA/MERS. The six-page civil engineering questionnaire and the five-page suggestion program questionnaire were both mailed out with a cover letter signed by the dean of the AFIT School of Systems and Logistics and a preaddressed postage-paid return envelope.

A total of 1008 survey questionnaires were mailed, 800 to civil engineering personnel (questionnaire one) and 208 to suggestion program personnel (questionnaire two).

Survey Questionnaire Data Processing. Responses to the questions on both questionnaires were converted to numerical values, and the values were entered into a data file on the VAX 11/785 computer system. Once stored in the computer data file, the data were analyzed using the computer program Statistical Package for the Social Sciences (SPSS-X). Because of the large sample size, the Central Limit Theorem was assumed to apply in this research, and all data were assumed to be normally distributed. The Central Limit Theorem states:

> For large sample sizes, the sample mean $\bar{x}$ has approximately a normal distribution and the mean of the population μ can be approximated by $\bar{x}$. The standard deviation of the population σ can be approximated by the sample standard deviation s. This is true regardless of the probability distribution of the sample population and the larger the sample size, the better will be the normal approximation [8:199].

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The specific SPSS-X subprograms used to answer the research questions are briefly described below.

FREQUENCIES. Frequency of response to each question on the nominal or ordinal level was examined using the subprogram FREQUENCIES. Numbers and percentages of responses in each answer category for each question were computed for both questionnaires. The results of the FREQUENCIES analysis are reported in Chapter IV.

CONDESCRIPTIVE. Each survey question involving interval or ratio data was analyzed using the subprogram CONDESCRIPTIVE. The maximum, minimum, mode, mean, and standard deviation were computed for each question. The answers to the Likert Scale questions were considered to be interval level data and the subprogram CONDESCRIPTIVE was used to answer research questions three, four, and five.

ONEWAY. The subprogram ONEWAY was used to answer research question six. It examined the relationships between independent demographic variables and the dependent variable, overall attitude about the suggestion program. Overall attitude about the suggestion program was found by calculating the mean response to the 20 Likert Scale questions that addressed the four purposes of suggestion programs. ONEWAY computed the F ratio and its probability value, which were used to test the null hypothesis that attitudes of respondents with different values for each independent variable were the same. If the probability of

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obtaining a given F ratio was 0.0500 or less, the null

hypothesis was rejected with 95 percent confidence,

indicating the likelihood that a difference in attitudes

exists among the subgroups being considered (22:111).

ONEWAY also computed subgroup means, standard deviations,

maximums, minimums, and 95 percent confidence intervals for

the subgroup means.

SCHEFFE. A large F ratio and a p-value less than

0.05 indicates only that the subgroup means are probably

unequal (22:111). In order to determine where the differ-

ences are, the SCHEFFE multiple range test was run as a

subcommand to the ONEWAY subprogram for the independent

variables with more than two possible values. The SCHEFFE

multiple range test was selected because it is conservative

for pairwise comparisons of means. SCHEFFE requires larger

differences between means for significance than most of the

other multiple rangle tests (22:112).

Benefit/Cost Data Collection

Research questions 10 through 16 addressed the question

of whether the evaluation of suggestions by Air Force Civil

Engineering organizations is cost-effective.

To answer those questions, suggestion benefits and

evaluation costs were collected using two basic techniques.

First, information about the number of suggestions evaluated

by Air Force Civil Engineering organizations and the

tangible benefits they produced was obtained from the AFSP

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Data System. Second, actual suggestion evaluation costs (which are not maintained in the AFSP Data System) were collected directly from civil engineering suggestion evaluators. This section describes how the data was collected and explains the methods used to analyze the data.

AFSP Data System Statistics. Personnel at HQ AFMPC/DPMDCR2 extracted the following four statistics for the suggestions sent to CONUS Air Force Civil Engineering organizations during fiscal year 1985:

1. number of suggestions sent to civil engineering organizations for evaluation.

2. number of those suggestions which were adopted.

3. value of the tangible benefits resulting from the adopted suggestions.

4. total cash awards paid to the suggesters of the adopted suggestions.

Those statistics, along with the total number of suggestions processed during the year (found in part two of the literature review) were used to directly answer research questions 10, 11, and 14.

Determination of Suggestion Evaluation Costs. To determine the mean man-hour cost incurred by civil engineering organizations in evaluating suggestions, a data collection sheet was developed and sent to all the civil engineering organizations located at the second group of CONUS bases. The data collection sheet was designed so that

suggestion evaluators could record the type of the suggestion and the number of hours that they and others who assisted them used to evaluate each suggestion. This sheet was approved by the Personnel Survey Branch of AFMPC in conjunction with the two survey questionnaires and was given the same survey control number. Copies of the data collection sheet, cover letter, and instructions are in Appendix D.

The civil engineering organization's Suggestion Program Monitor at each of the 42 bases in the second group of bases was sent 30 of the data collection sheets and instructed to record suggestion evaluation times between 1 June 1986 and 21 July 1986. Data from the returned sheets were entered into the VAX 11/785 computer and the FREQUENCIES subprogram was used on the suggestion type data to answer research questions 12 and 13. The suggestion evaluation times were converted to costs by entering the pay rates that were in effect during fiscal year 1985 for military and civilian workers. This standardization was necessary in order for the evaluation costs to be comparable to the tangible benefits for fiscal year 1985. The subprogram CONDESCRIPTIVE was then used to calculate the mean civil engineering suggestion evaluation man-hour cost and thereby answer research question 15.

Comparison of Costs With Benefits. To answer research question 16, it was necessary to compare the costs and benefits for suggestions evaluated by civil engineering

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organizations. The mean benefit for a suggestion evaluated by a civil engineering organization was found by dividing the total value of the tangible benefits that resulted from those suggestions during fiscal year 1985 by the number of suggestions that were evaluated by civil engineering organizations during fiscal year 1985.

The mean cost for a suggestion evaluated by a civil engineering organization has three components: the man-hour cost to evaluate the suggestion, the cost of the cash awards paid to suggesters, and the pro-rated cost of the suggestion program personnel budget spent to administer the program. The calculation of the first component, the man-hour cost, was described above. The second component, the award cost, was determined by dividing the total value of the cash awards paid during fiscal year 1985 by the number of suggestions sent to civil engineering organizations during 1985. The third component, the pro-rated share of the suggestion program personnel budget, was determined by multiplying the total personnel budget by the percentage of suggestions that are sent to civil engineering organizations for evaluation.

After summing up the three cost components, the ratio of benefits to costs was calculated, thereby answering the final research question.

Chapter Summary

This chapter described the methodologies used to accomplish the research objectives and to answer the research questions presented in Chapter I. Three research methods were used: a two-part literature review, two survey questionnaires, and the collection of suggestion benefit and suggestion evaluation cost data. Part two of the literature review was used to answer research questions one and two. The two mail survey questionnaires were used to answer research questions three through nine. Finally, the benefit/cost data was used to answer research questions 10 through 16.

IV. Presentation of Results

Chapter Overview

This chapter presents the information and statistics collected in part-two of the literature review, the descriptive statistics for the data collected by the survey questionnaires, and the descriptive statistics for the benefit/cost data.

Comparison of the AFSP with Members of the NASS

Research questions one and two compared the AFSP with members of the NASS. Part two of the literature review collected suggestion program management information and suggestion program performance statistics needed to answer those research questions. This section presents the information and statistics which were collected and the research questions are answered in Chapter V.

Suggestion Program Management Information. The NASS Annual Statistical Report, dated May, 1986, contains data collected for calendar year 1985 (21:1). The report divides the data into six categories:

1. Savings Data

2. Awards Data

3. Policy Data

4. Administrative Data

5. Evaluation and Contact Data

6. Miscellaneous Data.

This section compares the NASS members with the AFSP, primarily by presenting values for the prominent variables included in the 1986 NASS Annual Statistical Report.

Savings Data. Table 4.1 shows that the AFSP uses the same criteria used by the majority of NASS members to evaluate the tangible benefits for suggestions.

Awards Data. Tables 4.2 through 4.5 compare the awards paid by NASS members with those paid by the AFSP. Table 4.2 shows that the AFSP pays awards based on the estimated savings, as do 46 percent of the NASS members, and that the AFSP pays its awards immediately after approval of the suggestion, as do 44 percent of the NASS members. It also shows that the AFSP pays only cash awards. No percentages are shown for the various award types in Table 4.2 because many NASS members give more than one type of award. Tables 4.3 through 4.5 give the percent of savings that is paid as an award, the maximum award, and the minimum award. The AFSP is average or above average in all the categories.

Policy Data. Tables 4.6 and 4.7 summarize the policy data for NASS members and the AFSP. Table 4.6 shows that the AFSP partially identifies its suggesters, that management is allowed to receive cash awards, that there is no separate management plan, and that there is currently not a moratorium on the installation of new processes or equipment. For the AFSP, the suggester is considered to be partially identified because, although suggesters are

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Table 4.1

Criterion Used to Calculate Tangible Benefits

Criterion	# of NASS Members	Pct	AFSP
Time Period Used to Calculate Savings			
First Year	230	88.1	X
First Two Years	13	5.0	
Other Time Span	18	6.9	
Amount of Savings Used			
Gross Savings Used	40	15.4	
Net Savings Used	211	81.5	X
Other	8	3.1	
Overhead Costs Included to Determine Net Savings			
YES	31	12.0	
NO	227	88.0	X

(21:12,27)

Table 4.2

Award Basis, Timing, Types, and Taxation

Criterion	# of NASS Members	Pct	AFSP
Basis for Award			
Estimated Savings	117	45.9	X
Later Re-Evaluation	76	29.8	
Actual Savings Realized	62	24.3	
When Awards Are Paid			
On Approval	113	44.1	X
In Effect	122	47.7	
Other	21	8.2	
Type of Award			
Cash	241		X
Bonds	12		
Merchandise	39		
Tickets	3		
Other	38		
Taxes on Awards Paid			
YES	66	25.7	X
NO	191	74.3	

(21:12,34)

Table 4.3

Percent of Savings Paid as Award

Percent	# of NASS Members	Pct	AFSP
1 to 10	70	28.3	
11 to 20	72	29.1	
21 to 30	19	7.7	
31 to 50	6	2.4	
Flat Rate	11	4.5	
Varies	69	27.9	X

(21:12,34)

Table 4.4

Maximum Award

Maximum Award	# of NASS Members	Pct	AFSP
$2500 or Less	50	19.8	
$2501 to $5000	38	15.1	
$5001 to 10,000	68	27.0	
$10,000 to 25,000	41	16.3	
Over $25,000	18	7.1	X ($35,000)
No Maximum	37	14.7	

(21:12,34)

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Table 4.5

Minimum Award

Minimum Award	# of NASS Members	Pct	AFSP
No Minimum	22	8.7	
$10 or Less	19	7.5	
$11 to 20	29	11.5	
$21 to 30	95	37.7	X
$31 to 50	74	29.4	($25)
Over $50	13	5.2	

(21:12,34)

encouraged to identify themselves, they are not required to. Suggesters are, however, required to sign their suggestions. Table 4.7 shows that 52.1 percent of the NASS members have a one-year equity period for suggesters after non-adoption of their suggestion. The AFSP is in the next largest group (37.7%) with a two-year equity period from non-adoption. An equity period is the time period after the disapproval of a suggestion during which suggesters have the rights to the ideas they had suggested. If management implements the suggested idea during the equity period, the suggester is given credit for the suggestion.

Table 4.6

Summary of Fundamental Policy Data

Item of Policy	# of NASS Members	Pct	AFSP
Suggester's Identity			
Fully Identified	156	59.5	
Partially Identified	77	29.4	X
Anonymous	2	0.4	
Signature Optional	27	10.3	
Cash Awards for Management			
YES	161	61.7	X
NO	100	38.3	
Separate Management Plan			
YES	22	8.4	
NO	240	91.6	X
Moratorium on the Installation of New Processes or Equipment			
YES	111	42.4	
NO	151	57.6	X

(21:12,13,41)

Table 4.7

Suggester's Equity Period From Non-Adoption

Equity Period	# of NASS Members	Pct	AFSP
Up to One Year	9	3.8	
One Year	114	48.3	
Two Years	89	37.7	X
Three Years	9	3.8	
Four or More Years	5	2.1	
No Limit	4	1.7	
No Equity Period	6	2.5	

(21:13,41)

Administrative Data. One big difference between
the Air Force Suggestion Program and those programs operated
by private industry is that the Air Force's staffing is well
below private industry's. According to the 1979 GAO Report
mentioned in Chapter II, one government agency had 1 person
for every 6,470 employees to administer its suggestion
system, while a private company had 1 person for every 1,714
employees to administer its suggestion system (12:76-77).
Table 4.8 summarizes the administrative data which was
presented in the NASS statistical report. The table shows
that the AFSP does not have separate program administration
and that the AFSP committee performs all three of the
committee functions, making policy, deciding on awards,

Table 4.8

Administrative Data

	# of NASS Members	Pct	AFSP
Separate Program Administration			
YES	156	59.8	
NO	105	40.2	X
Committee Function			
Policy	141		X
Awards	153		X
Evaluation	71		X

(21:13,48)

and aiding in evaluations. No percentages are given for the committee functions because, like the AFSP, many NASS members have suggestion committees that perform multiple functions.

Evaluation and Contact Data. Levy's 1971 article reported that the national average time for the completion of a suggestion evaluation was 62 days (16:68). More recently, the NASS reported that for calendar years 1983, 1984, and 1985, the average processing time for suggestions by their member organizations was 160, 170, and 183 days, respectively (20:11)(21:11). In the fourteen years between 1971 and 1985, the processing time nearly tripled.

According to Shirley Wade, the Air Force Suggestion Program Administrator, the evaluation process for Air Force suggestions can vary from 30 days to six or seven years depending on how "long-term" the suggestion is. Wade adds that she has found that "the more successful suggestions take longer. They're the ones that save the most money, so they require a harder look and are studied closely" (14:16).

Tables 4.9 and 4.10 present the evaluation data, including the method used, the average processing time, and the contacts that are made between evaluators and suggesters.

Miscellaneous Data. Table 4.11 presents a comparison of the filing systems used by the suggestion systems and whether the files are maintained on a computer.

Table 4.9

Evaluation Data

Data Type	# of NASS Members	Pct	AFSP
Evaluation Method			
Full-Time Evaluator	25	7.4	
Line Management	216	64.1	X
Other	96	28.5	
Average Processing Time			
30 Days or Less	39	15.5	
31 to 60 Days	80	31.9	
61 to 90 Days	72	28.7	
Over 90 Days	60	23.9	X

(21:13)(37)

Table 4.10

Contacts with Suggesters

Time of Contact	# of NASS Members	Pct	AFSP
At Acknowledgement			
Personally	1	0.4	
Letter	234	99.6	X
During Study			
Personally	179	56.1	
Letter	140	43.9	X
At Non-Adoption			
Personally	69	21.8	
Letter	248	78.2	X

(21:13,55)

Table 4.11

Filing System and Computer Usage

	# of NASS Members	Pct	AFSP
Filing System			
Alphabetical	103	19.9	
Departmental	71	13.7	
Subject	74	14.3	X
Suggestion Number	246	47.6	
Other	23	4.4	
Computer Usage			
YES	149	56.9	X
NO	57	21.8	
Considering	56	21.4	

(21:13,55)

Suggestion Program Performance Statistics. Table 4.12 presents the statistics recorded by the Air Force Suggestion Program during fiscal years 1984 and 1985. Table 4.13 presents the national average statistics for members of the National Association of Suggestion Systems for calendar years 1983 through 1985. Comparisons are made between the two sets of statistics in Chapter V.

Table 4.12

Air Force Suggestion Program Statistics

Statistic	FY 84	FY 85
Number of Eligible Employees	771,128	762,463
Number of Suggestions Received	102,126	108,712
Percent Participation	13.2	14.3
Number of Suggestions Adopted	19,913	20,378
Percent Adoption	19.5	18.7
Dollars Saved (millions)	94	129
Dollars Saved Per Eligible Employee	122	169
Total Cash Awards Paid (millions)	3.5	3.9
Average Cash Award (dollars)	176	191

(37)

Table 4.13

National Association of Suggestion Systems Statistics

Statistic	1983	1984	1985
Number of Eligible Employees (millions)	8.23	8.20	9.28
Number of Suggestions Received (millions)	1.23	1.34	1.33
Participation Rate (percent)	15	16	14
Number of Suggestions Adopted (thousands)	311	301	330
Adoption Rate (percent)	25	22	25
Dollars Saved (billions)	0.90	1.04	1.45
Dollars Saved Per Eligible Employee	109	127	157
Total Cash Awards Paid (millions)	82	98	128
Average Cash Award (dollars)	267	327	398

(20:11)(21:11)

Survey Questionnaire Data

Part I of both survey questionnaires collected demographic data about the respondents. Since they contained very few of the same questions, the responses to Part I of the survey questionnaires are reported separately for the civil engineering personnel and the suggestion program personnel. The responses to Parts II and III of the questionnaires are reported together since the questions in Parts II and III were identical (with the exception of one question) on both questionnaires.

Questionnaire Return Rates. Of the original 1008 surveys mailed, 575 usable ones were returned, a 57.0 percent overall response rate. The return rates varied greatly, however, for the five sub-groups included in the study. The return rate of 76.9 percent for the suggestion program survey was significantly higher than the 51.9 percent return rate for the civil engineering survey. Table 4.14 presents the questionnaire return rates for five subgroups of respondents included in the study.

Table 4.14

Presentation of Questionnaire Return Rates
For Five Subgroups of Respondents

	Number Sent	Number Returned	Percent Returned
CE Personnel			
Officers	200	109	54.5
Enlisted	200	101	50.5
GS and GM Civilians	188	114	60.6
WG, WL, WS Civilians	212	87	41.0
No Grade Reported	-	4	-
Total CE Personnel	800	415	51.9
Suggestion Program Personnel	208	160	76.9
Overall Total	1008	575	57.0

Results of Part I of Questionnaire One. Part I of questionnaire one had four subparts. The first subpart gathered general demographic data. The second subpart gathered information from only those people who had submitted at least one suggestion, while the third subpart gathered information from only those people who had evaluated at least one suggestion. The fourth subpart began the collection of attitude information from all the respondents.

General Demographic Data. Questions one through seven established general demographic data for each respondent. The data collected is listed below and is numbered to correspond to the survey questionnaire:

1. Duty section

2. Pay-grade

3. Years of Air Force Civil Engineering experience

4. Sex

5. Major command

6. Level of assignment

7. Supervisory status.

Base Size. Table 4.15 shows the distribution of the civil engineering respondents by the size of the base to which they were assigned.

Table 4.15

Distribution of Civil Engineering Respondents by Base Size

Base Size	Number Mailed	Number Returned	Percent Returned	Percent of Returned
Small	102	54	52.9	13.0
Medium	307	146	47.6	35.2
Large	391	215	55.0	51.8
TOTAL	800	415	51.9	100.0

Area of Civil Engineering Organization.
Table 4.16 shows the area of the civil engineering organiza-
tion each respondent was assigned to at the time he or she
completed the questionnaire.

Pay-Grade. Tables 4.17 and 4.18 present the
distribution of the civil engineering respondents by pay-
grade. Table 4.17 presents the military civil engineering
personnel and Table 4.18 presents the civilian civil
engineering personnel.

Years of Experience. Question three was
open-ended and asked the respondent how many years and
months they had worked in Air Force Civil Engineering.
Answers were rounded up or down to the nearest whole year.
Table 4.19 presents the statistics calculated for the
experience data, including the mean experience level for
civil engineering respondents of 8.70 years.

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Table 4.16

Area of Assignment of Civil Engineering Respondents

Areas	Number	Percent
Operations	186	44.8
Engineering	107	25.8
Programming	17	4.1
Housing	10	2.4
Fire Protection	21	5.1
Readiness	11	2.7
Administration	6	1.4
Industrial Engineering	14	3.4
Funds Management	11	2.7
Real Estate	5	1.2
Base Civil Engineer	4	1.0
Major Command	12	2.9
Other	6	1.5
No Answer Given	5	1.2 (N=415)

Table 4.17

Distribution of Military CE Respondents by Pay Grade

Grade	Number	Percent	Grade	Number	Percent
E-1	1	1.0	O-1	26	23.9
E-2	5	5.0	O-2	23	21.1
E-3	21	20.8	O-3	36	33.0
E-4	20	19.8	O-4	13	11.9
E-5	26	25.7	O-5	9	8.3
E-6	15	14.9	O-6	2	1.8
E-7	8	7.9			
E-8	2	2.0			
E-9	3	3.0			
Totals	101	100.0		109	100.0

Table 4.18

Distribution of Civilian CE Respondents by Pay Grade

Grade	N	%	Grade	N	%	Grade	N	%
GS-3	3	2.6				WL-6	1	1.1
GS-4	9	7.9				WL-9	1	1.1
GS-5	12	10.5	WG-5	1	1.1			
GS-6	10	8.8	WG-6	2	2.3			
GS-7	32	28.1	WG-7	4	4.6	WS-7	2	2.3
GS-8	10	8.8	WG-8	14	16.1	WS-8	2	2.3
GS-9	21	18.4	WG-9	14	16.1	WS-9	2	2.3
GS-10	3	2.6	WG-10	29	33.3	WS-10	3	3.4
GS-11	6	5.3	WG-11	7	8.0	WS-11	1	1.1
GS-12	5	5.3				WS-12	1	1.1
GS-13	2	1.8				WS-13	2	2.3
						WS-15	1	1.1
Totals	114			71			16	

Table 4.19

Years of Experience for Civil Engineering Respondents

N	Mean	Standard Deviation	Maximum	Minimum	Mode
415	8.70	7.96	35	0 (Less than 6 mon)	2 (51)

Sex. Table 4.20 presents the distribution of the civil engineering respondents by sex.

Table 4.20

Distribution of Civil Engineering Respondents by Sex

Sex	Number	Percent
Male	366	88.2
Female	47	11.3
No Answer Given	2	0.5 (N=415)

Major Command. Table 4.21 presents the distribution of the civil engineering respondents by their major command.
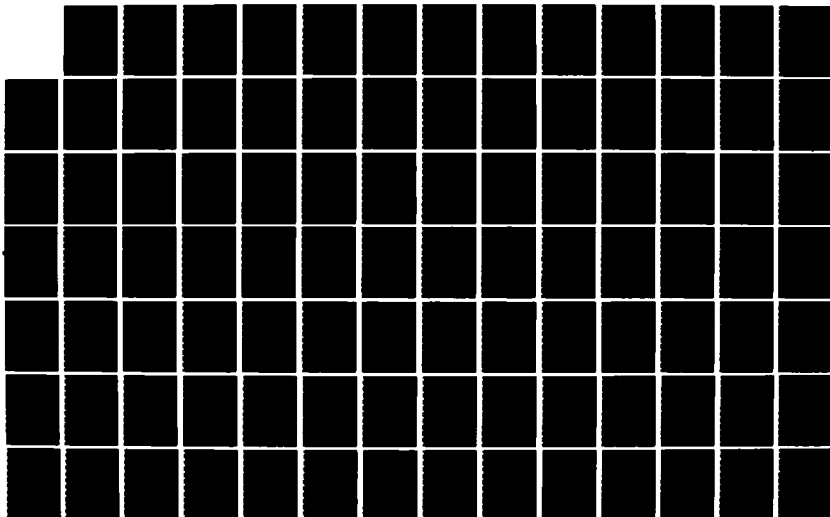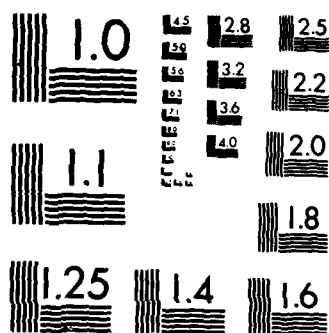
MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

Table 4.21

Distribution of Civil Engineering Respondents
by Major Command

Major Command	Number	Percent
AFCC	4	1.0
AFLC	46	11.1
AFSC	7	1.7
ATC	28	6.7
AU	13	3.1
ESC	1	0.2
MAC	84	20.2
SAC	123	29.6
SPACECOM	7	1.7
TAC	88	21.2
Other	14	3.4 (N=415)

Level of Assignment. Table 4.22 presents the distribution of the civil engineering respondents by their level of assignment.

Table 4.22

Distribution of CE Respondents by Level of Assignment

Level of Assignment	Number	Percent
Base	353	85.1
Major Command	31	7.5
Intermediate Headquarters	6	1.4
Air Staff	12	2.9
Other	5	1.2
No Answer Given	8	1.9 (N=415)

Supervisory Status. Table 4.23 presents the number of respondents to the civil engineering questionnaire who reported that they were a supervisor versus the number of respondents who reported that they were not a supervisor.

Table 4.23

Distribution of CE Respondents by Supervisory Status

Supervisory Status	Number	Percent
Was a Supervisor	155	37.3
Was Not a Supervisor	258	62.2
No Answer Given	2	0.5 (N=415)

Suggestion Submittal Information. Question eight of questionnaire one asked the respondents how many suggestions they had submitted to the AFSP. Of the 415 respondents, 208 (50.1 percent) had submitted at least one suggestion. Only those 208 individuals were required to answer questions 9 through 14.

Number of Suggestions Submitted. The number of suggestions that an individual has submitted indicates his or her interest in the AFSP. Table 4.24 presents the distribution of the number of suggestions the civil engineering respondents had submitted.

Number Affecting Own Work Area. Table 4.25 presents the distribution of the number of submitted suggestions that affected the CE respondent's own work area.

Table 4.24

Number of Suggestions Submitted

Number of Suggestions Submitted	Number	Percent	
9 or More	18	4.3	
7 or 8	6	1.4	
5 or 6	26	6.3	
3 or 4	55	13.3	
2	63	15.2	
1	40	9.6	
Zero, But Have Considered Submitting a Suggestion	165	39.8	
Zero, and Have Never Even Considered Submitting One	38	9.2	
Did Not Answer	4	0.9	(N=415)

Table 4.25

Number of Submitted Suggestions Affecting Own Work Area

Number of Suggestions	Number	Percent	
9 or More	8	3.8	
7 or 8	2	1.0	
5 or 6	9	4.3	
3 or 4	22	10.6	
2	44	21.2	
1	48	23.1	
None	71	34.1	
No Answer Given	4	1.9	(N=208)

Number of Submitted Suggestions Approved.

Table 4.26 presents the distribution of the number of

suggestions that the civil engineering respondents had

submitted that were approved.

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Table 4.26

Number of Submitted Suggestions Approved

Number Approved	Number	Percent	
9 or More	6	2.9	
7 or 8	0	0.0	
5 or 6	6	2.9	
3 or 4	12	5.8	
2	27	13.0	
1	49	23.6	
Zero	108	51.9	(N=208)

Total Cash Awards Received. Table 4.27
presents the distribution of the total amount of the cash
award that the CE respondents reported that they had
received. Although the current minimum cash award is $25,
four respondents reported having received amounts of 1, 2,
15, and 20 dollars, respectively. These answers could have
resulted from awards which were paid when there was a lower
minimum payment, as part of group awards, or they could have
been erroneous.

Table 4.27

Total Cash Awards Received (Dollars)

	N	Mean	Stand Dev	Max	Min	Mode
Those Who Have Received Cash	73	385.29	672.07	3000	1	25 (15)
All Who Have Submitted Sugs	208	135.22	443.15	3000	0	0 (132)

Number of AFSP Certificates Received. Table
4.28 presents the distribution of the number of AFSP certif-
icates that the civil engineering respondents had received.

Table 4.28

Number of AFSP Certificates Received

Number Received	Number	Percent
13 or More	2	1.0
11 or 12	1	0.5
9 - 10	2	1.0
7 - 8	1	0.5
5 - 6	5	2.4
3 - 4	8	3.9
2	23	11.1
1	43	20.7
None	123	59.1 (N=208)

Suggester's Evaluation Time. Table 4.29
presents the statistics calculated for the average evalua-
tion times which were reported by the civil engineering
respondents who had submitted at least one suggestion.

Table 4.29

Suggester's Average Suggestion Evaluation Time (Weeks)

N	Mean	Standard Deviation	Maximum	Minimum	Mode
185	16.9	25.6	250	2	8 (22)

Assessment of Evaluation Time. The
respondents were next asked to assess the evaluation times
they had experienced. Table 4.30 presents the distribution
of the assessments that the respondents had of the average
evaluation time they had reported in the previous question.

Table 4.30

Suggester's Assessment of Suggestion Evaluation Time

Assessment	Number	Percent
Very Reasonable	4	1.9
Reasonable	107	51.4
Excessive	57	27.4
Very Excessive	27	13.0
Did Not Answer	13	6.3 (N=208)

Suggestion Evaluation Information. Question 15
asked how many suggestions the respondents had evaluated
since they began working in Air Force Civil Engineering. If
the respondent had not evaluated any suggestions, they were
instructed to skip to question 25. Questions 16 through 24
obtained further information about the respondent's
experience in evaluating suggestions. Of the 415
respondents to the civil engineering questionnaire, 153
(36.9 percent) had evaluated at least one suggestion.

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Number of Suggestions Evaluated. Table 4.31 presents the distribution of the number of suggestions that the civil engineering respondents had evaluated.

Table 4.31

Number of Suggestions Evaluated

	N	Mean	Stand Dev	Max	Min	Mode
Had Evaluated At Least One	153	32.4	109.2	1000	1	3 (17)
All the Respondents	415	12.0	68.0	1000	0	0 (262)

Evaluator's Assessment of Their Evaluation Experience. Table 4.32 presents the distribution of responses to the question of how each respondent assessed their own suggestion evaluation experience.

Table 4.32

Evaluator's Assessment of Their Evaluation Experience

Assessment	Number	Percent
Very Highly Experienced	12	7.8
Above Average Experience	46	30.1
Average Experience	70	45.8
Below Average Experience	17	11.1
Inexperienced	8	5.2 (N=153)

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Number of Suggestions Evaluators Were Unable
to Evaluate. Question 17 asked the evaluators to state how
many of the suggestions that they had evaluated they were
unable to make a final decision on because they did not have
the required approval or disapproval authority. Table 4.33
presents the distribution of their responses.

Table 4.33

Number of Suggestions Evaluators Were Unable to Evaluate

Number Unable	Number	Percent
None	36	23.5
1 - 4	64	41.8
5 - 8	17	11.1
9 - 12	15	9.8
13 - 16	3	2.0
17 - 20	6	3.9
21 - 24	1	0.7
25 - 28	5	3.3
29 or More	6	3.9 (N=153)

Number of Suggestions Approved. Question 18
asked the evaluators how many suggestions they had approved.
Table 4.34 presents the distribution of their responses.

Evaluator's Evaluation Time. Questions 19
and 20 asked evaluators to estimate how many hours they and
otners who assisted them used to evaluate the average sug-
gestion. Table 4.35 presents the results of both questions.

Table 4.34

Number of Suggestions Approved by Evaluators

Number Approved	Number	Percent
None	46	30.1
1 - 4	60	39.2
5 - 8	16	10.5
9 - 12	16	10.5
13 - 16	10	6.5
17 - 20	2	1.3
21 - 24	0	0.0
25 - 28	1	0.7
29 or More	2	1.3 (N=153)

Table 4.35

Evaluator's Evaluation Time (Hours)

	N	Mean	Stand Dev	Max	Min	Mode
Needing Site-Survey	126	4.5	4.0	32.0	0.25	4.0 (22)
Not Needing Site-Survey	132	2.5	2.4	16.0	0.25	2.0 (35)
Other Support						
Supervisor	109	0.9	1.1	6.0	0.17	0.5 (41)
Technician	73	1.3	1.4	6.0	0.17	1.0 (32)
Clerk	75	0.7	0.9	6.0	0.17	0.5 (25)
Typist	130	0.8	0.8	6.0	0.17	0.5 (47)

Contact Between Evaluator and Suggester.
Table 4.36 presents the distribution of responses to the
question of what percentage of the time the evaluator con-
tacted the suggester during the evaluation process.

Table 4.36

Contact Between Evaluator and Suggester

Percent of Time Suggester Was Contacted	Number	Percent	
Zero	35	22.9	
1 - 15	23	15.0	
16 - 30	22	14.4	
31 - 45	9	5.9	
46 - 60	18	11.8	
61 - 75	1	7.2	
76 - 90	2	1.3	
91 - 99	2	1.3	
100	25	16.3	
Did Not Answer	6	3.9	(N=153)

Value of Contacts With Suggesters. Question
22 asked the evaluators to rate the value of the contacts
they had had with suggesters. Table 4.37 presents the
results of question 22.

Regulation Knowledge. Question 23 asked the
evaluators to assess their knowledge of the regulation that
governs the AFSP, AFR 900-4. Each respondent was presented
with the five choices below:

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1. I've read it thoroughly and refer to it when evaluating a suggestion.

2. I occasionally refer to it, but have not read it thoroughly.

3. I looked at it one time.

4. I've heard others talk about it, but have not seen it myself.

5. I've never seen it or heard anyone talk about it.

The results of question 23 are in Table 4.38.

Table 4.37

Value of Contacts With Suggesters

Value of Contacts	Number	Percent
No Contact	28	18.3
Very Helpful	41	26.8
Somewhat Helpful	65	42.5
Not Helpful	10	6.5
Did Not Answer	9	5.9 (N=153)

Suggestion Evaluation Training. Question 24 asked the evaluators whether they had received any suggestion evaluation training. Each respondent simply responded "yes" or "no." Table 4.39 presents the distribution of responses between the two choices.

Table 4.38

Civil Engineering Evaluator's Knowledge of AFR 900-4

Response	Number	Percent
1	27	17.6
2	66	43.1
3	24	15.7
4	9	5.9
5	24	15.7
Did Not Answer	3	2.0 (N=153)

Table 4.39

Suggestion Evaluation Training

Response	Number	Percent
Have Had Training	10	6.5
Have Not Had Training	143	93.5 (N=153)

Non-Likert Attitude Information. Questions 25 and 26 began the collection of attitude information.

Size of the Cash Awards. Question 25 asked the respondent to select one of four statements that best described their feelings about the size of the cash awards that are currently being paid by the AFSP. Table 4.40 presents the results of question 25.

Table 4.40

Attitudes About the Size of the Cash Awards

Attitude	Number	Percent
Too Large	25	6.0
About Right	185	44.6
Too Small	74	17.8
Don't Know	115	27.7
Did Not Answer	16	3.9 (N=415)

Reasons Why Suggestions Are Submitted.
Question 26 gave each respondent five potential reasons why
an individual might submit a suggestion. The respondent was
asked to rank the five reasons from 1 to 5, with 1 as the
most common reason and 5 as the least common. They were
told to answer based on their perceptions of the entire
AFSP, not their personal reasons for using the program. It
was intended that each respondent would not use any number
more than once, but a large number of the respondents used
the same number at least twice. Therefore, the responses
were treated as if they came from a Likert scale. Table
4.41 presents the results of question 26.

Table 4.41

Perceptions of the Reasons Why Suggestions Are Submitted

Reason	Most Common		2nd Most Common		3rd Most Common		4th Most Common		Least Common	
	N	%	N	%	N	%	N	%	N	%
Improve Air Force	**228**	57	74	19	49	12	25	6	23	6
Formal Con-.sideration	27	7	80	20	85	22	<u>115</u>	29	89	23
To Meet A Quota	47	12	32	8	44	11	62	16	<u>**209**</u>	53
To Get a Non-Monetary Award	24	6	58	15	<u>**132**</u>	34	106	27	73	19
To Get A Cash Award	**132**	34	<u>111</u>	28	75	19	35	9	40	10

Note: The largest entry in each row is in bold face.
        The largest entry in each column is underlined.

Results of Part I of Questionnaire Two. Part I of the
questionnaire sent to suggestion program personnel consisted
of sixteen questions and had three objectives. The first
objective was to collect general demographic data on each
respondent. The second objective was to gather data and
attitudes about the support provided by other organizations
to the AFSP. The third objective was to determine the
respondent's attitude about the size of the cash awards
currently being paid by the AFSP.

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General Demographic Data. Questions one through eight collected demographic data from each respondent.

Base Size. Table 4.42 presents the distribution of the suggestion program respondents by the size of the base to which they were assigned.

Table 4.42

Distribution of Suggestion Program Respondents by Base Size

Base Size	Number	Percent
Small	25	15.6
Medium	47	29.4
Large	88	55.0
TOTAL	160	100.0

Pay-Grade. The first question on the suggestion program questionnaire was open-ended and asked for the respondent's pay-grade. Table 4.43 presents the distribution of the respondents by pay-grade.

Job Title. Question two was open-ended and asked the respondent to provide their job title. Table 4.44 presents the distribution of responses to that question.

Sex. Table 4.45 shows the distribution of the suggestion program respondents by sex.

Table 4.43

Distribution of Suggestion Program Respondents by Pay-Grade

Pay-Grade	Number	Percent
GS-13	3	1.9
GS-11	7	4.4
GS-9	5	3.1
GS-8	1	0.6
GS-7	65	40.6
GS-6	4	2.5
GS-5	19	11.9
GS-4	22	13.8
GS-3	7	4.4
GS-2	2	1.3
Minimum Wage	3	1.9
O-6	1	0.6
O-3	1	0.6
O-2	1	0.6
E-7	4	2.5
E-5	4	2.5
E-4	5	3.1
E-3	5	3.1
E-2	1	0.6 (N=160)

Table 4.44

Distribution of Suggestion Program Respondents by Job Title

Job Title	Number	Percent
Suggestion Program Manager	66	41.3
Suggestion Program Clerk	44	27.8
Supervisory Sugg. Program Specialist	3	1.9
Suggestion Program Technician	8	5.1
Suggestion Program Specialist	23	14.6
Assistant Sugg. Program Manager	11	7.0
Assistant Director of Personnel	1	0.6
Student Aide	2	1.3
Did Not Answer	2	1.3 (N=160)

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Table 4.45

Distribution of Suggestion Program Respondents by Sex

Sex	Number	Percentage
Male	43	26.9
Female	114	71.3
Did Not Answer	3	1.9 (N=160)

Level of Assignment. Table 4.46 presents the distribution of the suggestion program respondents by their level of assignment.

Major Command. Table 4.47 presents the distribution of the suggestion program respondents by their major command.

Years of Experience. Question six was open-ended and asked the respondent how many years and months of experience they had in the Air Force Suggestion Program. Answers were rounded up or down to the nearest whole year. Table 4.48 presents the statistics calculated for the experience data.

Table 4.46

Distribution of Suggestion Program Respondents
by Level of Assignment

Level of Assignment	Number	Percent
Base	136	85.0
Major Command	15	9.4
Air Staff	1	0.6
Base and Major Command	6	3.8
Agency	1	0.6
No Answer Given	1	0.6 (N=160)

Table 4.47

Distribution of Suggestion Program Respondents
by Major Command

Major Command	Number	Percent
AFCC	1	0.6
AFLC	22	13.8
AFSC	13	8.1
ATC	24	15.0
AU	2	1.3
MAC	22	13.8
SAC	40	25.0
TAC	27	16.9
AFRES	1	0.6
USAFA	2	1.3
TAC & AFESC	1	0.6
HQ AFMEA	1	0.6
ANG	1	0.6
AFCOMS	1	0.6
No Answer Given	1	0.6 (N=160)

Table 4.48

Years of Experience for Suggestion Program Respondents

N	Mean	Standard Deviation	Maximum	Minimum	Mode
160	3.94	4.41	22	0 (Less than 6 mon)	1 (34)

AFSP Experience and Knowledge. Question seven asked the respondents to rate their own experience and knowledge gained from working in the Air Force Suggestion Program. Each respondent was given five choices:

1. Very experienced and very knowledgeable

2. Moderately experienced but very knowledgeable

3. Moderately experienced and moderately knowledgeable

4. Minimal experience and knowledge

5. Inexperienced and little knowledge.

Table 4.49 presents the results of question seven.

Regulation Knowledge. Question eight asked the suggestion program personnel to rate their knowledge and use of AFR 900-4. Each respondent was given seven choices:

1. I've read it and use it often to look-up information

2. I've read it and occasionally refer to it

3. I've read it but rarely refer to it now

4. I've read it once and never looked at it since

5. I've read only parts of it at various times when I needed information

6. I looked at it once

7. I've never had a need to look at it.

Table 4.50 presents the results of question eight.

Table 4.49

Distribution of SP Respondents' Experience and Knowledge

Response	Number	Percent
1	76	47.5
2	24	15.0
3	39	24.4
4	11	6.9
5	5	3.1
Did Not Answer	5	3.1 (N=160)

Table 4.50

Regulation Understanding of Suggestion Program Personnel

Response	Number	Percent
1	105	65.6
2	34	21.3
3	9	5.6
4	0	0.0
5	8	5.0
6	1	0.6
7	2	1.3
Did Not Answer	1	0.6 (N=160)

Data and Attitudes About Support From Others.
Questions 9 through 15 collected data and attitudes about
the support provided by other organizations to the AFSP.
Included in the data was the respondent's opinion of which
organization received the most suggestions for evaluation,
the percent of all suggestions that are sent to that
organization, and the percent of the evaluations that are
completed on time by that organization. Respondents also
rated the overall support that is provided by all organi-
zations in submitting and evaluating suggestions.

Suggestion Submittal and Evaluation Rating.
Questions nine and ten asked the respondents to rate the
overall support provided by other Air Force organizations to
the AFSP. Question nine addressed the submittal of
suggestions and question ten addressed the evaluation of
suggestions. Table 4.51 presents the results of questions
nine and ten.

Organization Doing the Most Evaluations.
Question 12 asked the respondents to identify the organ-
ization to which the most evaluations are sent for evalua-
tion. The question was open-ended and 31 different answers
were given. Of these, 22 of the answers appeared only once;
4 answers appeared only twice; 2 answers appeared only three
times. Those 28 answers were combined into the "Other"
category in Table 4.52.

Table 4.51

Suggestion Submittal and Evaluation Rating

	Submittal Support		Evaluation Support	
Rating	Number	Percent	Number	Percent
Poor	2	1.3	22	13.8
Fair	41	25.6	58	36.3
Satisfactory	70	43.8	63	39.4
Excellent	40	25.0	14	8.8
Outstanding	3	1.9	0	0.0
Did Not Answer	4	2.5	3	1.9

Table 4.52

Organization Doing the Most Evaluations

Organization	Number	Percent
Maintenance	68	42.5
Civil Engineering	43	26.9
Materiel Management	6	3.8
Other	36	22.5
Did Not Answer	7	4.4 (N=160)

Percent to the Busiest Organization.

Question 13 asked the respondents to estimate what percentage of all suggestions are sent to the organization they had specified in question 12. Table 4.53 presents the results of the responses to question 13.

Table 4.53

Percent of Evaluations by the Busiest Organization

N	Mean	Standard Deviation	Maximum	Minimum	Mode
153	49.7	20.3	90	15	60 (20)

Busiest Organization Support.

Question 14 asked the respondents to rate the overall evaluation support that was provided by the busiest organization. Table 4.54 presents the distribution of responses to question 14.

Timeliness of Evaluations.

Questions 11 and 15 asked the respondents to estimate what percentage of suggestion evaluations are completed within the time limits specified in AFR 900-4, for all organizations, and for the busiest organization they had specified, respectively. Table 4.55 presents the statistics for the responses to questions 11 and 15.

Table 4.54

Busiest Organization Support

Rating	Number	Percent
Poor	14	8.8
Fair	36	22.5
Satisfactory	62	38.8
Excellent	34	21.3
Outstanding	9	5.6
Did Not Answer	5	3.1 (N=160)

Table 4.55

Percent of Evaluations Finished On-Time

Organization	N	Mean	Standard Deviation	Max	Min	Mode
All	156	48.7	24.8	90	0	50 (23)
Busiest	154	51.4	28.8	100	0	50 (21)

Size of the Cash Awards. Question 16 asked the suggestion program respondents to describe their feelings about the size of the cash awards currently being paid by the AFSP. Table 4.56 presents the results.

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Table 4.56

Suggestion Program Respondents' Attitudes About the Size of
the Cash Awards Currently Being Paid by the AFSP

Attitude	Number	Percent
Too Large	8	5.0
About Right	108	67.5
Too Small	29	18.1
Don't Know	9	5.6
Did Not Answer	6	3.8 (N=160)

Results of Part II of the Questionnaires. Part II of
both questionnaires consisted of twenty-two positively
worded statements about the AFSP. Respondents selected a
response to each statement that expressed their attitude
about the statement from a five-point Likert Scale. The
results of those responses are presented in Table 4.57. The
raw numbers are not presented; only the percentages of
respondents who selected each answer are shown. For each
statement, the first line of percentages is for the civil
engineering respondents (CE) and the second line of
percentages is for the suggestion program respondents (SP).

Table 4.57

Percentages of Responses to the Likert Scale Questions

Statement	Strongly Disagree 1	2	3	4	Strongly Agree 5
The AFSP provides better communication between employees and management	8.0	25.4	32.0	29.8	4.9 (CE)
	1.3	9.5	18.4	56.3	14.6 (SP)
The AFSP reduces Air Force operating costs	4.2	10.8	18.3	46.2	20.5 (CE)
	0.0	2.5	9.4	54.7	33.3 (SP)
The savings produced by the AFSP exceed the cost of running the program	8.1	14.2	40.7	25.7	11.3 (CE)
	0.6	3.1	18.2	24.5	52.8 (SP)
The AFSP yields worthwhile suggestions	2.2	5.9	11.2	58.0	22.4 (CE)
	0.6	2.5	6.3	56.0	34.6 (SP)
The AFSP creates a better understanding of employees by management	8.0	26.3	32.7	28.8	4.1 (CE)
	0.6	15.2	27.2	47.5	9.5 (SP)
The AFSP brings out hidden talents and aptitudes of personnel	4.6	9.7	18.9	46.1	20.6 (CE)
	0.0	5.0	16.4	57.2	21.4 (SP)
The intangible benefits produced by the AFSP exceed the efforts needed to administer the program	3.9	17.2	41.8	32.2	4.9 (CE)
	3.8	13.3	22.8	38.6	21.5 (SP)

Table 4.57 (Continued)

Percentages of Responses to the Likert Scale Questions

Statement	Strongly Disagree 1	2	3	4	Strongly Agree 5	
Most suggestions are submitted to benefit the Air	7.1	24.4	18.6	39.4	10.5	(CE)
Force rather than for personal gain	0.6	18.2	15.7	40.3	25.2	(SP)
The AFSP gives employees the satisfaction of	4.2	12.5	21.5	50.4	11.5	(CE)
being "part of the team"	0.0	7.0	15.2	51.9	25.9	(SP)
The AFSP develops the employee's thinking	3.4	16.3	19.0	47.3	13.9	(CE)
	1.3	3.8	16.4	54.1	24.5	(SP)
The AFSP increases efficiency	3.7	11.5	20.3	52.3	12.2	(CE)
	1.3	0.6	11.3	54.7	32.1	(SP)
The AFSP provides sufficient incentive for participation	4.6	16.3	19.3	51.2	8.5	(CE)
	0.6	16.4	8.8	59.7	14.5	(SP)
The AFSP needs more publicity and advertising	3.7	23.5	26.2	30.9	15.7	(CE)
	0.6	15.2	10.1	39.2	34.8	(SP)

Table 4.57 (Continued)

Percentages of Responses to the Likert Scale Questions

Statement	Strongly Disagree 1	2	3	4	Strongly Agree 5	
The AFSP improves the welfare of the employee	3.7	16.2	37.0	36.5	6.6	(CE)
	1.3	11.4	24.1	55.7	7.6	(SP)
The AFSP helps the employee to participate in improving the Air Force	2.0	4.6	14.1	63.7	15.6	(CE)
	0.0	0.0	5.7	57.9	36.5	(SP)
The AFSP eliminates waste	9.5	20.7	24.1	36.3	9.3	(CE)
	1.3	5.0	17.0	50.9	25.8	(SP)
The AFSP meets the employee's need for self-expression	3.2	17.4	34.3	39.0	6.1	(CE)
	0.6	3.8	22.0	55.3	18.2	(SP)
The AFSP offers a valuable way of getting one's ideas considered	1.5	6.9	14.0	61.5	16.2	(CE)
	0.6	0.0	3.8	46.5	49.1	(SP)
The AFSP reduces complaints by allowing individuals to suggest remedies	4.6	17.6	26.8	43.7	7.3	(CE)
	2.5	8.2	17.6	54.7	16.4	(SP)

Table 4.57 (Continued)

Percentages of Responses to the Likert Scale Questions

Statement	Strongly Disagree 1	2	3	4	Strongly Agree 5
The AFSP promotes cooperation between employees and supervisors	6.1	25.9	35.2	29.6	3.2 (CE)
	0.6	11.5	29.9	47.1	10.8 (SP)
The AFSP identifies key people in each section	8.3	36.7	36.7	14.9	3.4 (CE)
	3.2	20.0	31.0	39.4	6.5 (SP)
The AFSP should be continued	3.7	5.4	17.4	43.9	29.7 (CE)
	0.6	1.3	5.7	18.5	72.6 (SP)
My Commander supports the AFSP [CE Questionnaire Only]	1.2	3.0	20.5	32.7	17.6 (CE)

Results of Part III of the Questionnaires. Part III of both questionnaires consisted of one question that asked the respondents whether they thought the Air Force Suggestion Program needs any changes. If they answered affirmatively, they were asked to write the changes that they felt were needed and to classify the changes as either minor or major. Table 4.58 presents the results of the question and Tables 4.59 and 4.60 present a summary of the contents of the written responses.

Table 4.58

Percentages of Responses Whether the AFSP Needs Changes

Response	CE Questionnaire Percent	SP Questionnaire Percent
Yes	33.5	75.0
No	20.0	6.9
Don't Know	43.1	13.8
Did Not Answer	3.4 (N=415)	4.4 (N=160)

Where a respondent listed more than one idea for improving the AFSP, all of the ideas were categorized. A total of 142 of the civil engineering respondents wrote improvement ideas (34.2 percent) and 122 of the suggestion program respondents wrote improvement ideas (76.2 percent). The 142 civil engineering respondents wrote a total of 159 ideas and the 122 suggestion program respondents wrote a total of 251 ideas.

Responses from the civil engineering respondents were classified into 34 general categories, 18 of which appeared 3 or more times. Those 18 ideas appeared a total of 137 times, comprising 86.1 percent of the 159 responses. Table 4.59 presents those 18 ideas and the frequency with which each idea appeared.

Table 4.59

Most Frequent Changes Proposed by the CE Respondents

	Proposed Change	N
1	Eliminate quotas	20
2	Better screening of suggestions before evaluation	19
3	Faster evaluations	18
4	More or better advertising	17
5	Reduce the red tape	8
6	More supervisor support	7
7	Make AFSP like the Model Installation Program	6
8	Increase cash awards	6
9	Require suggesters to do more research	6
10	Do not allow suggestions in suggester's area of responsibility	5
11	Provide more training on program operation	4
12	Reduce the amount of information that the suggester must provide	3
13	Do evaluations by committee, not individuals	3
14	Evaluations by organizations other than the affected organization	3
15	Get better qualified Suggestion Committee members	3
16	Eliminate the cash awards	3
17	Pay less for insignificant suggestions, more for the best suggestions	3
18	Allow suggestions in suggester's area of responsibility	3

Responses from the suggestion program respondents were classified into 49 general categories, 20 of which appeared 4 or more times. Those 20 ideas appeared a total of 208 times, comprising 82.9 percent of the 251 responses. Table 4.60 presents those 20 ideas and the frequency with which each idea appeared.

A representative sample of the changes proposed by the respondents is reproduced in Appendices E (civil engineering respondents) and F (suggestion program respondents). The ideas in the appendices were edited for basic grammar and spelling errors, but otherwise were reproduced as they were written. The number following each of the ideas reproduced in the appendices is the case number of the respondent who wrote the idea. The sample ideas for improving the AFSP reproduced in the appendices reflect the views of each respondent and do not necessarily represent the views of the author or the position of AFIT or the U. S. Air Force.

Presentation of Benefit/Cost Data

This section presents the descriptive statistics for the benefit/cost data collected for the suggestions evaluated by CONUS civil engineering organizations.

Suggestion Benefit Data. Table 4.61 presents the information that was extracted from the AFSP Data System by HQ AFMPC/DPMDCR2 for the suggestions evaluated by CONUS civil engineering organizations during fiscal year 1985.

Table 4.60

Most Frequent Changes Proposed by the SP Respondents

	Proposed Change	N
1	Higher/standardized grades for AFSP personnel	27
2	Revise AFR 900-4, AFM 30-130, or AF Forms 1000 and 162	24
3	Overhaul the Suggestion Program Data System	23
4	Training program for SPM's and clerks	23
5	Better evaluations/evaluator training	18
6	Institute SPDS training	12
7	More manpower in AFSP offices	11
8	More timely evaluations by higher headquarters	10
9	Eliminate quotas	10
10	More top management support	8
11	Better criteria for intangible benefits	8
12	More promotions and publicity	8
13	Reduce/eliminate awards for intangible benefits	7
14	Put AFSP back under Personnel instead of Manpower	7
15	Put AFSP under installation commanders	7
16	Make AFSP responsible for all Air Force productivity improvement programs	7
17	Higher maximum award	7
18	Clearer suggestion eligibility criteria	6
19	Eliminate BCE work and safety suggestions	4
20	Clarify job responsibility part of AFR 900-4	4

Table 4.61

Statistics for Suggestions Which Were Evaluated by
CONUS Civil Engineering Organizations During FY 1985

Statistic	Value
Number of Suggestions Evaluated	5684
Number of Suggestions Adopted	599
Total Value of Tangible Benefits	$833,971
Total Value of Cash Awards Paid	$57,115

Suggestion Evaluation Cost Data. The civil
engineering organizations at the 42 CONUS bases that
received the cost data forms returned 163 usable data
collection sheets. Tables 4.62 and 4.63 present the data
obtained from the data collection sheets. Table 4.62
presents the distribution of the types of suggestions which
were evaluated and Table 4.63 presents the descriptive
statistics for the evaluation costs which were calculated
from the evaluation times recorded by the suggestion
evaluators on the data collection sheets.

The statistics for the evaluator, supervisor, typist,
and clerk were calculated separately, each time using only
those data collection sheets where a time was reported for
the particular individual. Since all four of those indivi-
duals are involved in the evaluation of every suggestion, in
tne cases where no times were reported for a particular

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Table 4.62

Distribution of Suggestion Types Evaluated by CE Organizations Between 1 June 1986 and 21 July 1986

Type of Suggestion	Number	Percent
Traffic	46	28.2
Energy Conservation	15	9.2
Fire Protection	11	6.7
Heating, Ventilating and Air Conditioning	11	6.7
Safety	10	6.1
Lighting	7	4.3
Security	7	4.3
Equipment Usage	7	4.3
Material Conservation	6	3.7
Housing	5	3.1
Construction	5	3.1
Power	4	2.5
Painting	3	1.8
Publications	3	1.8
Other	20	12.3
Did Not Classify	3	1.8 (N=163)

individual, it was assumed that the evaluators failed to document their time rather than that they did not assist in the evaluation. The mean cost of the technician was calculated by dividing the total cost reported for technicians by the total number of cases (163) because the assistance of a technician is not required for the evaluation of every suggestion.

Table 4.63

Civil Engineering Organization Suggestion Evaluation Costs

Cost Component	N	Mean	Stand Dev	Max	Min
Evaluator	157	$51.66	$180	$2109	$1.39
Supervisor	46	$17.00	$37	$252	$1.39
Typist	81	$10.61	$59	$538	$0.73
Clerk	49	$23.38	$128	$896	$0.65
Technician	163	$2.86	$13	$119	$0.00
Total		$105.51			

Chapter Summary

This chapter has presented the data collected to answer the study's research questions. Chapter V presents the answers to the questions derived from the data.

V. Analysis and Discussion of Results

Chapter Overview

This chapter presents the analysis of the data that was collected using the three research methodologies and discusses the results of that analysis. Each of the 16 research questions is analyzed and discussed separately.

Comparison of the AFSP with the NASS

Answer to Research Question One.

What are the similarities and what are the differences between the Air Force Suggestion Program and other suggestion systems that are members of the National Association of Suggestion Systems?

Tables 4.1 through 4.11 compared the AFSP with the suggestion systems operated by the members of the NASS. The discussion below is in two parts: those features of the AFSP which place it in the largest group of NASS members (similarities) and those features of the AFSP which place it in a group other than the largest group (differences). A total of 12 similarities and 11 differences were found.

Similarities Between the AFSP and the NASS.

1. The AFSP calculates its tangible benefits based on the first year savings, as do 88.1 percent of the NASS members.

2. The AFSP calculates its tangible benefits based on the net savings, as do 81.5 percent of the NASS members.

3. The AFSP does not include overhead costs in its calculation of tangible benefits, which is in agreement with 88.0 percent of the NASS members.

4. The AFSP pays cash awards, as do the vast majority (percentage unknown) of the NASS members.

5. The minimum cash award payable by the AFSP is $25, placing it in the largest group of NASS members (those who have minimum awards between $21 and $30 [37.7 percent]). The remaining 62.3 percent of NASS members are divided between those whose minimum award is $20 or less (27.7 percent) and those whose minimum award is $31 or more (34.6 percent).

6. The AFSP allows the payment of cash awards to management personnel, as do 61.7 percent of the NASS members.

7. The AFSP does not have a separate suggestion program for management personnel, in agreement with 91.6 percent of the NASS members.

8. The Air Force does not have a moratorium on the installation of new processes or equipment, which puts it in agreement with 57.6 percent of the NASS members.

9. The AFSP Awards Committee participates in all three suggestion committee functions, making policy, determining award amounts, and doing suggestion evaluations. The majority of NASS member's suggestion committees also perform multiple roles.

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10. The AFSP uses members of line management to complete suggestion evaluations, as do 64.1 percent of the NASS members. The remaining 35.9 percent of the NASS members employ either full-time suggestion evaluators or use some other method to evaluate suggestions.

11. The AFSP acknowledges the receipt of suggestions by letter and sends non-adoption notices by letter, as do 99.6 percent and 78.2 percent of the NASS members, respectively.

12. The AFSP uses a computer to maintain its filing system, as do 56.9 percent of the NASS members.

Differences Between the AFSP and the NASS.

1. The AFSP bases its awards on the estimated savings, as do only 45.9 percent of the NASS members. The other 54.1 percent of the NASS members are divided between paying awards based on a later re-evaluation (29.8 percent) and paying awards based on the actual savings realized (24.3 percent).

2. The AFSP pays its awards immediately after approval of the suggestion, as do only 44.1 percent of the NASS members. The other 55.9 percent of the NASS members pay awards only after the suggestion has been implemented or at some other time.

3. There are taxes due on awards paid by the AFSP, as is true for only 25.7 percent of the NASS members. The Internal Revenue Service has ruled that awards paid by

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suggestion programs are taxable (37), but the remaining 74.3
percent of NASS members calculate their cash awards so that
the after-tax amount is equal to the award that the
suggester has earned.

4. The percentage of the tangible benefits that are
paid as a cash award varies for the AFSP, as they do for
only 27.9 percent of the NASS members. The remaining 82.1
percent of the NASS members pay a flat percentage rate of
the benefits as the award.

5. The maximum cash award payable by the AFSP is
$35,000, one of the highest maximums in the NASS. Only 7.1
percent of NASS members have a maximum award greater than
$25,000, while 14.7 percent of the NASS members have no
maximum award. The remaining 78.2 percent of NASS members
have maximum awards that are less than $25,000.

6. Suggesters are partially identified in the AFSP
(they have the option of not identifying themselves). The
majority (59.5 percent) of NASS members have programs where
the suggesters are fully identified. Only 29.4 percent of
NASS members partially identify their suggesters.

7. The AFSP has a two-year equity period for
suggesters from non-adoption, as do 37.7 percent of the NASS
members. The remaining 62.3 percent of the NASS members are
divided among those who have an equity period less than two
years (52.1 percent), those who have an equity period
greater than two years (7.6 percent), and those who have no
equity period (2.5 percent).

8. The AFSP does not have separate program administration, which is in agreement with 40.2 percent of the NASS members. The remaining 59.8 percent of NASS members do have separate program administration.

9. The AFSP has an average processing time greater than 90 days, the longest time period category used by NASS. Only 23.9 percent of the NASS members have average processing times that long.

10. During the evaluation of a suggestion, the AFSP notifies suggesters by letter, as do only 43.9 percent of the NASS members. The remaining 56.1 percent of the NASS members notify the suggesters in person.

11. The AFSP maintains its suggestion files by subject, as do only 14.3 percent of the NASS members. The largest group of NASS members (47.6 percent) maintains its suggestion files by the number of the suggestion.

Answer to Research Question Two.

How do the values recorded by the Air Force Suggestion Program compare to the national average values compiled by the National Association of Suggestion Systems for the following statistics?

 1. Percent participation.
 2. Percent adoption.
 3. Dollars saved per eligible employee.
 4. Average cash award.

Tables 4.12 and 4.13 presented the values for the statistics in question for calendar years 1983-1985 for members of the NASS and for fiscal years 1984 and 1985 for the AFSP. Table 5.1 compares the calendar year 1985 NASS

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national average statistics with the fiscal year 1985 AFSP statistics. The table shows that the answer to research question two is that the AFSP had the same participation rate, a slightly lower adoption rate, and an average cash award that was less than half as large as that for the NASS members. In contrast, the average savings per eligible employee is slightly higher for the AFSP.

Table 5.1

Comparison of FY 1985 AFSP Statistics With NASS
National Average Statistics For Calendar Year 1985

	AFSP	NASS
Percent Participation	14	14
Percent Adoption	19	25
Average Cash Award	$191	$398
Dollars Saved Per Eligible Employee	$169	$157

(21:11)(37)

Overall Attitudes About the AFSP

Research questions three through five evaluated the overall attitudes about the AFSP held by members of the two study groups and compared the two groups. In order to determine the overall attitudes held by individuals about the AFSP, the responses to the Likert Scale questions were analyzed separately and in combination with each other.

Almost all (20) of the Likert Scale questions
addressed the four basic purposes for suggestion systems
which were introduced in Chapter II. Since those questions
were worded to be favorable toward the AFSP, the higher the
value of the response, the more strongly was the agreement
with the statement. Values greater than 3 indicate some
degree of agreement with the statement, and values less than
3 indicate some degree of disagreement with the statement.

The four purposes and the applicable questions are:

1. to produce productivity improvements
(questionnaire one: questions 28, 29, 30, 33, 37, and 42)
(questionnaire two: questions 18, 19, 20, 23, 27, and 32).

2. to improve communication between employees and
management (questionnaire one: questions 27, 31, and 46)
questionnaire two: questions 17, 21, and 36).

3. to improve employee morale (questionnaire one:
questions 40, 43, and 45)(questionnaire two: questions 30,
33, and 35).

4. to increase employee involvement in their
organization (questionnaire one: questions 32, 34, 35, 36,
38, 41, 44, and 47)(questionnaire two: questions 22, 24, 25,
26, 28, 31, 34, and 37).

Answer to Research Question Three.

Overall, are the attitudes of civil engineering personnel towards the suggestion program favorable or unfavorable?

Table 5.2 presents the first attitude measure for civil engineering respondents, statistics for the sum of the responses to the 20 questions which addressed the four purposes of the AFSP. Table 5.3 presents four more attitude measures for the civil engineering respondents, statistics for the sum of the responses to each of the four groups of questions which addressed the same AFSP purpose.

Table 5.4 presents the individual statistics for each of the 20 questions which addressed the purposes of the AFSP. The questions are presented in order from the highest mean response to lowest mean response.

Table 5.5 presents the statistics for the other three Likert Scale questions on the civil engineering questionnaire.

Table 5.6 presents the statistics for the responses to the question which asked the civil engineering respondents to rank the potential reasons why individuals submit suggestions to the AFSP. The reasons are presented in order from the lowest mean response (most common reason) to the highest mean response (least common reason).

Table 5.2

Overall Attitude of CE Respondents About the AFSP Purposes

Mean	Standard Deviation	Maximum	Minimum
3.355	0.623	4.80	1.20

Table 5.3

CE Respondents' Attitudes About the Purposes of the AFSP

Purpose	Mean	Stand Dev
1 To produce productivity improvements	3.45	0.71
2 To improve communication between employees and management	2.97	0.85
3 To improve employee morale	3.28	0.76
4 To increase employee involvement in their organization	3.47	0.66

Table 5.4

Statistics for CE Respondents' AFSP "Purpose" Responses

	Question	Purpose	Mean	Stand Dev
1	Yields worthwhile suggestions	1	3.93	0.88
2	Helps employees improve the AF	3	3.86	0.80
3	Way to get one's ideas considered	3	3.84	0.82
4	Brings out hidden talents	3	3.68	1.05
5	Reduces AF costs	1	3.68	1.05
6	Increases efficiency	1	3.58	0.97
7	Satisfaction of being on a "team"	3	3.53	0.99
8	Develops employee's thinking	3	3.52	1.03
9	Provides sufficient incentive	3	3.43	1.01
10	Reduces complaints	4	3.32	1.00
11	Allows employee self-expression	4	3.28	0.93
12	Improves employee's welfare	4	3.26	0.93
13	Suggestions submitted to benefit the AF, not for personal gains	3	3.22	1.14
14	Savings exceed costs	1	3.18	1.07
15	Intangible benefits exceed administration efforts	1	3.17	0.91
16	Eliminates waste	1	3.15	1.14
17	Improves supervisor-subordinate communication	2	2.98	1.04
18	Promotes supervisor-employee cooperation	2	2.98	0.96
19	Managers understand employees better	2	2.95	1.02
20	Identifies key people	3	2.69	0.94

Table 5.5

Other Attitudes of CE Respondents About the AFSP

Question	Mean	Stand Dev
The AFSP needs more publicity and advertising	3.31	1.11
The AFSP should be continued	3.90	1.01
My commander supports the AFSP	3.83	1.22

Table 5.6

CE Respondents' Perceptions of Why People Submit Suggestions

Reason	Mean	Stand Dev
1. To improve Air Force operations	1.85	1.20
2. To get a cash award	2.34	1.30
3. To get a non-monetary award	3.37	1.13
4. To get formal consideration of an idea previously disapproved by supervisor	3.40	1.23
5. To meet a quota	3.90	1.43

Tables 5.2 through 5.6 show that overall, the attitudes of the civil engineering personnel are somewhat favorable toward the AFSP. Civil engineering personnel are most in agreement with the AFSP as a way to increase employee involvement in their organization and to produce

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productivity improvements. They are least in agreement with

the AFSP as a way to improve communication between employees

and management. But regardless of the reasons, the civil

engineering personnel believe that the AFSP should continue.

Answer to Research Question Four.

Overall, are the attitudes of suggestion program personnel towards the suggestion program favorable or unfavorable?

Table 5.7 presents the first attitude measure for

suggestion program respondents, statistics for the sum of

the responses to the 20 questions which addressed the four

purposes of the AFSP. Table 5.8 presents four more attitude

measures for the suggestion program respondents, statistics

for the sum of the responses to each of the four groups of

questions which addressed the same AFSP purpose.

Table 5.9 presents the individual statistics for each

of the 20 questions which addressed the purposes of the

AFSP. The questions are presented in order from the highest

mean response to lowest mean response.

Table 5.10 presents the statistics for the other two

Likert Scale questions on the suggestion program

questionnaire.

Table 5.7

Overall Attitude of SP Respondents About AFSP Purposes

Mean	Standard Deviation	Maximum	Minimum
3.892	0.519	5.00	2.25

Table 5.8

SP Respondents' Attitudes About the Purposes of the AFSP

	Purpose	Mean	Stand Dev
1	To produce productivity improvements	4.06	0.58
2	To improve communication between employees and management	3.60	0.76
3	To improve employee morale	3.74	0.66
4	To increase employee involvement in their organization	3.91	0.52

Table 5.9

Statistics for SP Respondents' AFSP "Purpose" Responses

	Question	Purpose	Mean	Stand Dev
1	Way to get one's ideas considered	3	4.43	0.63
2	Helps employees improve the AF	3	4.31	0.57
3	Savings exceed costs	1	4.28	0.92
4	Yields worthwhile suggestions	1	4.21	0.72
5	Reduces AF costs	1	4.19	0.70
6	Increases efficiency	1	4.16	0.74
7	Develops employee's thinking	3	3.97	0.82
8	Satisfaction of being on a "team"	3	3.97	0.83
9	Brings out hidden talents (tie)	3	3.95	0.76
9	Eliminates waste (tie)	1	3.95	0.86
11	Allows employee self-expression	4	3.87	0.77
12	Reduces complaints	4	3.77	0.95
13	Improves supervisor-subordinate communication	2	3.73	0.87
14	Provides sufficient incentive (tie)	3	3.71	0.93
14	Suggestions submitted to benefit the AF, not for personal gains (tie)	3	3.71	1.06
16	Intangible benefits exceed administration efforts	1	3.61	1.08
17	Improves employee's welfare	4	3.57	0.84
18	Promotes supervisor-employee cooperation	2	3.56	0.86
19	Managers understand employees better	2	3.50	0.89
20	Identifies key people	3	3.26	0.96

Table 5.10

Other Attitudes of SP Respondents About the AFSP

Question	Mean	Stand Dev
The AFSP needs more publicity and advertising	3.92	1.06
The AFSP should be continued	4.65	0.72

Tables 5.7 through 5.10 show that the suggestion program personnel have favorable attitudes toward the AFSP. Their attitudes are even more favorable than those of the civil engineering personnel. The suggestion program personnel also agree most with the AFSP as a way to get productivity improvements and to increase employee involvement in their organization. They also agree the least with the AFSP as a way to improve communication between employees and management.

Answer to Research Question Five.

Overall, how do the attitudes of civil engineering personnel compare with those of suggestion program personnel?

Table 5.11 compares the overall attitudes about the purposes of the AFSP held by the civil engineering respondents with those of the suggestion program respondents. The table shows that the suggestion program respondents had attitudes which were nearly four (3.892), or "Agree." The

Table 5.11

Comparison of CE and SP Respondents' Overall Attitudes About the AFSP Purposes

Group	Mean	Standard Deviation	Maximum	Minimum
CE	3.355	0.623	4.80	1.20
SP	3.892	0.519	5.00	2.25
Difference	+0.537	-0.104	+0.20	+1.05

civil engineering respondents had attitudes which were closer to "Undecided" than "Agree" (3.355).

The suggestion program respondents had a lower standard deviation, indicating less variability between respondents' attitudes. The difference in variability between respondents is also shown by the maximum and minimum values. At least one suggestion program respondent agreed with all the statements, while the lowest attitude held by any suggestion program respondent was 2.25 (slightly above "Disagree"). In contrast, the civil engineering respondents' attitudes ranged from just above "Strongly Disagree" (1.20) to just below "Strongly Agree" (4.80).

Table 5.12 compares the attitudes of the two groups about the four purposes of the AFSP. The table shows that the attitudes of the suggestion program respondents about all four of the purposes are more favorable than those of the civil engineering respondents. The largest differences

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Table 5.12

Comparison of CE and SP Respondents' Attitudes About the
Purposes of the AFSP

	Purpose	CE Mean	SP Mean	Diff
1	To produce productivity improvements	3.45	4.06	0.61
2	To improve communication between employees and management	2.97	3.60	0.63
3	To improve employee morale	3.28	3.74	0.46
4	To increase employee involvement in their organization	3.47	3.91	0.44

in attitudes are about the productivity and communication purposes, while the smallest difference are about the morale and employee involvement purposes.

Table 5.13 compares the two groups' responses to the 20 individual questions that addressed the purposes of the AFSP. The questions are in the same order as in Table 5.4, which presented only the information for the civil engineering respondents. The "CE Rank" and "SP Rank" columns tell where each question fell in order from most agreed with to least agreed with. The one question for which there was the most difference between the two groups and the three questions for which there was the least difference between the two groups are in bold face in Table 5.13.

Table 5.13

Comparison of CE and SP Respondents' AFSP Purpose Responses

CE Rank	Question	CE Mean	SP Mean	Diff	SP Rank
1	**Yields worthwhile suggestions**	**3.93**	**4.21**	**0.28**	**4**
2	Helps employees improve the AF	3.86	4.31	0.45	2
3	Way to get ideas considered	3.84	4.43	0.59	1
4	**Brings out hidden talents**	**3.68**	**3.95**	**0.27**	**9**
5	Reduces AF costs	3.68	4.19	0.51	5
6	Increases efficiency	3.58	4.16	0.58	6
7	Satisfaction of being on a team	3.53	3.97	0.44	8
8	Develops employee's thinking	3.52	3.97	0.45	7
9	**Provides sufficient incentive**	**3.43**	**3.71**	**0.28**	**14**
10	Reduces complaints	3.32	3.77	0.45	12
11	Allows employee self-expression	3.28	3.87	0.59	11
12	Improves employee's welfare	3.26	3.57	0.31	17
13	Suggestions submitted to benefit the AF, not for personal gains	3.22	3.71	0.49	14
14	**Savings exceed costs**	**3.18**	**4.28**	**1.10**	**3**
15	Intangible benefits exceed administration efforts	3.17	3.61	0.44	16
16	Eliminates waste	3.15	3.95	0.80	9
17	Improves communication	2.98	3.73	0.75	13
18	Promotes cooperation	2.98	3.56	0.58	18
19	Managers understand employees better	2.95	3.50	0.55	19
20	Identifies key people	2.69	3.26	0.57	20

Table 5.14 compares the responses to the other Likert Scale questions for the two groups. The table shows that both the suggestion program respondents and the civil engineering respondents believe the AFSP needs more publicity and advertising and that the AFSP should be continued. In both cases, the suggestion program respondents were more strongly in agreement than the civil engineering respondents. For the question of whether the AFSP should be continued, the SP mean response of 4.65 was the largest response of all the Likert Scale questions and the CE mean response of 3.90 was only exceeded by the response to the statement that said "The AFSP yields worthwhile suggestions."

Table 5.14

Comparison of CE and SP Respondents'
Other Attitudes About the AFSP

Question	CE Mean	SP Mean	Diff
The AFSP needs more publicity and advertising	3.31	3.92	0.61
The AFSP should be continued	3.90	4.65	0.75

Significant Independent Variables

Answer to Research Question Six.

Which of the variables measured in this study are significant in determining whether the attitudes toward the suggestion program are favorable or unfavorable, both within the two groups of personnel and between the two groups of personnel?

Table 5.15 presents the results of the subprogram ONEWAY that was run on the independent variables to determine whether they had a significant effect on the overall attitudes of the respondents about the AFSP. For each independent variable, the table gives the F ratio and shows the probability (p) value that the size of the F ratio was due to random effects rather than a dependency relationship between the variables. Variables with p-values less than 0.05 do have a significant effect on AFSP attitudes and are indicated by a Y in the "Sig" column. Variables with p-values greater than 0.05 have a N in the "Sig" column.

Tables 5.16 through 5.28 individually present each of the variables that had a significant effect on overall attitudes about the AFSP and show which values of each variable had the most favorable attitudes and least favorable attitudes.

None of the variables measured had a significant effect on both the attitudes of the civil engineering respondents and the suggestion program respondents.

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Table 5.15

Significance Level for Variables Affecting AFSP Attitudes

Variable	Civil Engineers			Suggestion P		
	F	Prob	Sig	F	Prob	Sig
Base Size	2.3	0.103	N	1.1	0.345	N
Pay Category	19.2	0.000	Y			
Grade Level	2.7	0.236	N	1.1	0.333	N
Experience	0.8	0.529	N	5.7	0.004	Y
Sex	0.1	0.750	N	0.3	0.576	N
Major Command	2.3	0.044	Y	0.5	0.794	N
Level of Assignment	9.2	0.003	Y	0.4	0.544	N
Supervisory Status	4.9	0.027	Y			
Number Submitted	3.0	0.011	Y			
Number Approved (sub)	5.0	0.008	Y			
Cash Received	7.5	0.001	Y			
Evaluation Time	0.5	0.699	N			
Number Evaluated	1.1	0.330	N			
Number Approved (eval)	0.1	0.901	N			
Regulation Knowledge	0.4	0.799	N	6.3	0.013	Y
Contact With Suggester	1.0	0.402	N			
Value of Contacts	6.5	0.000	Y			
Evaluation Training	0.0	0.824	N			

Table 5.15 (Continued)

Significance Level for Variables Affecting AFSP Attitudes

Variable	Civil Engineers			Suggestion P		
	F	Prob	Sig	F	Prob	Sig
Percent Evaluated On-Time				5.1	0.002	Y
Suggestion Submittal Rating				5.0	0.026	Y
Suggestion Evaluation Rating				12.4	0.000	Y
Busiest Organization Specified				0.3	0.579	N

Pay Category. Table 5.16 shows that CE officers have significantly less favorable attitudes about the AFSP than all of the other CE personnel. The F ratio was 19.2 with a p value of 0.000. It was also found that higher ranking officers (captains and above) have significantly less favorable attitudes than lower ranking officers (lieutenants). The F ratio was 7.43 with a p value of 0.008. None of the other pay categories had a significant difference in attitudes between lower paid members and higher paid members.

Major Command. Table 5.17 presents the results of the ONEWAY subprogram comparing overall attitudes of civil engineering respondents by their major command of assignment. Even though overall attitude is dependent on major command, the Scheffe multiple range test found that no two major commands are significantly different at the 0.05 level of confidence.

Table 5.16

Overall CE Attitudes About the AFSP by Pay-Plan

Pay-Plan	N	Mean	Stand Dev	Min	Max	95% Conf Interval
Officers	108	3.00	0.64	1.3	4.8	2.87-3.12
Enlisted	93	3.57	0.50	1.9	4.5	3.47-3.68
GS GM Civilians	109	3.43	0.62	1.2	4.8	3.32-3.55
Wage Civilians	81	3.47	0.55	1.8	4.7	3.35-3.59
Lieutenants	48	3.18	0.63	1.5	4.8	3.00-3.37
Capt. and Above	60	2.85	0.62	1.3	3.9	2.69-3.01

Table 5.17

Overall CE Attitudes About the AFSP by Major Command

Major Command	N	Mean	Stand Dev	Min	Max	95% Conf Interval
AFLC	42	3.52	0.53	2.4	4.6	3.36-3.69
ATC	25	3.17	0.60	2.0	4.4	2.92-3.42
MAC	82	3.42	0.64	1.3	4.6	3.28-3.56
SAC	115	3.39	0.59	1.2	4.8	3.28-3.50
TAC	85	3.29	0.68	1.7	4.8	3.14-3.43
Other	41	3.17	0.58	1.3	4.4	2.98-3.35

Level of Assignment. Table 5.18 shows that the attitudes of civil engineering respondents assigned at base level were significantly better than the attitudes of civil engineering respondents assigned at higher levels. The F ratio was 9.2 and the p-value was 0.003.

Table 5.18

Overall CE Attitudes About the AFSP by Level of Assignment

Level Assigned	N	Mean	Stand Dev	Min	Max	95% Conf Interval
Base Level	333	3.38	0.62	1.2	4.8	3.32-3.45
Higher Level	53	3.11	0.59	1.3	4.4	2.94-3.27

Supervisory Status. Table 5.19 shows that the attitudes of civil engineering respondents who were not supervisors were significantly better than the attitudes of the civil engineering respondents who were supervisors. The F ratio was 4.9 with a p-value of 0.027.

Table 5.19

Overall CE Attitudes About the AFSP by Supervisory Status

Status	N	Mean	Stand Dev	Min	Max	95% Conf Interval
Supervisor	150	3.27	0.65	1.3	4.8	3.17-3.38
Not a Supervisor	242	3.41	0.59	1.2	4.8	3.34-3.49

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Number Submitted. Table 5.20 shows that the level of civil engineering respondents' attitudes is dependent on the number of suggestions that the individual has submitted. However, the Scheffe multiple range test found that no two of the categories were significantly different from each other at the 0.5 confidence level.

Table 5.20

Overall CE Attitudes About the AFSP
by Number of Suggestions Submitted

Number Submitted	N	Mean	Stand Dev	Min	Max	95% Conf Interval
5 or More	49	3.19	0.82	1.2	4.6	2.96-3.43
3 or 4	53	3.34	0.57	1.8	4.8	3.19-3.50
2	59	3.26	0.63	1.7	4.7	3.10-3.43
1	39	3.45	0.56	2.3	4.6	3.27-3.63
Though About, But None	153	3.47	0.58	1.5	4.8	3.38-3.56
Never Even Considered	37	3.15	0.56	2.0	4.0	2.96-3.34

Number of Submitted Suggestions Approved. Table 5.21 shows that those civil engineering respondents who had two or more approved suggestions had significantly more favorable attitudes than the respondents who had no approved suggestions. The F ratio was 5.0 and the p-value was 0.008.

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Table 5.21

Overall CE Attitudes About the AFSP
by the Number of Suggestions Approved

Number Approved	N	Mean	Stand Dev	Min	Max	95% Conf Interval
2 or More	48	3.48	0.48	1.9	4.6	3.34-3.62
1	48	3.43	0.70	1.3	4.8	3.23-3.63
Zero	102	3.17	0.67	1.2	4.5	3.04-3.30

Cash Received. Table 5.22 shows that those civil engineering respondents who had received more than 75 dollars in cash awards had attitudes about the AFSP which were significantly more favorable than those who had not received any cash awards. The F ratio was 6.26 and the p-value was 0.002.

Table 5.22

Overall CE Attitudes About the AFSP by Cash Received

Cash Received	N	Mean	Stand Dev	Min	Max	95% Conf Interval
None	129	3.18	0.67	1.2	4.5	3.07-3.30
$1 to $75	34	3.46	0.49	2.3	4.6	3.29-3.63
More than $75	35	3.57	0.67	1.9	4.8	3.34-3.80

Value of Contacts. Table 5.23 shows that the civil engineering suggestion evaluators who said their contacts with suggesters during evaluations were not helpful had significantly less favorable attitudes about the AFSP than all of the other groups. The F ratio was 6.5 and the p-value was 0.000.

Table 5.23

Overall CE Attitudes About the AFSP
by the Reported Value of the Contacts with Suggesters

Value of Contacts	N	Mean	Stand Dev	Min	Max	95% Conf Interval
Very Helpful	39	3.34	0.54	1.9	4.8	3.16-3.52
Somewhat Helpful	64	3.16	0.67	1.3	4.4	2.99-3.32
Not Helpful	10	2.35	0.50	1.5	3.0	1.99-2.70
No Contacts	28	3.15	0.72	1.8	4.8	2.87-3.43

Experience. Table 5.24 shows that the suggestion program respondents with four or more years of experience had a significantly more favorable overall attitude about the AFSP than did the respondents with one-and-a-half years or less. The F ratio was 5.7 with a p-value of 0.004.

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Table 5.24

Overall SP Attitudes About the AFSP by Amount of Experience

Years Experience	N	Mean	Stand Dev	Min	Max	95% Conf Interval
0 - 1 Years	54	3.73	0.46	2.3	4.8	3.60-3.86
2 - 3 Years	34	3.86	0.57	2.3	4.9	3.66-4.06
4 or More Years	63	4.05	0.50	2.7	5.0	3.92-4.17

Regulation Knowledge. Table 5.25 shows that the suggestion program respondents who had read AFR 900-4 and used it often had attitudes about the AFSP that were significantly more favorable than those individuals who did not use the regulation often. The F ratio was 6.3 with a p-value of 0.013.

Table 5.25

Overall SP Attitudes About the AFSP by AFR 900-4 Knowledge

Knowledge	N	Mean	Stand Dev	Min	Max	95% Conf Interval
Read, Use Often	101	3.97	0.50	2.3	5.0	3.87-4.06
Don't Use Often	50	3.74	0.53	2.3	5.0	3.59-3.89

Percent Evaluated On-Time. Table 5.26 shows that the suggestion program respondents who reported that 76 to 100 percent of all evaluations are completed on-time had significantly more favorable attitudes about the AFSP than both of the two groups who reported that less than 50 percent of all evaluations were reported on-time. The F ratio was 5.07 with a p-value of 0.002.

Table 5.26

Overall SP Attitudes About the AFSP
by Reported Timeliness of Suggestion Evaluations

Percent On-Time	N	Mean	Stand Dev	Min	Max	95% Conf Interval
1 - 25 Percent	40	3.74	0.45	2.7	4.8	3.60-3.89
26 - 50 Percent	45	3.79	0.54	2.3	4.8	3.63-3.95
51 - 75 Percent	41	4.03	0.41	3.4	5.0	3.90-4.16
76 - 100 Percent	24	4.14	0.59	2.8	5.0	3.90-4.39

Suggestion Submittal Rating. Table 5.27 shows that the suggestion program respondents who rated suggestion submittal support as excellent or outstanding had significantly more favorable attitudes about the AFSP than did those respondents who rated the submittal support as poor or fair. The F ratio was 5.0 and the p-value was 0.026.

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Table 5.27

Overall SP Attitudes About the AFSP
by Rating of Suggestion Submittal Support

Submittal Rating	N	Mean	Stand Dev	Min	Max	95% Conf Interval
Poor or Fair	40	3.74	0.48	2.7	4.8	3.59-3.89
Satisfactory	67	3.89	0.53	2.3	4.9	3.76-4.02
Excellent or Outstanding	41	4.07	0.51	2.3	5.0	3.91-4.23

Suggestion Evaluation Rating. Table 5.28 shows
that the suggestion program respondents who rated the
suggestion evaluation support as satisfactory or excellent
had significantly more favorable attitudes about the AFSP
than did those respondents who rated the evaluation support
as poor or fair. (None of the respondents rated the
evaluation support as outstanding). The F ratio was 12.4
with a p-value of 0.001.

Table 5.28

Overall SP Attitudes About the AFSP
by Rating of Suggestion Evaluation Support

Evaluation Rating	N	Mean	Stand Dev	Min	Max	95% Conf Interval
Poor or Fair	78	3.76	0.53	2.3	4.9	3.64-3.88
Satisfactory	58	4.01	0.46	2.6	5.0	3.89-4.14
Excellent	13	4.22	0.49	3.4	5.0	3.92-4.52

Improvement Ideas

Answer to Research Question Seven.

What ideas do civil engineering personnel have for improving the suggestion program?

Table 4.59 presented the 18 most frequently mentioned improvement ideas given by the civil engineering respondents. Of those 18 ideas, there were four distinct leaders:

1. Eliminate quotas.

2. Better screening of suggestions before evaluation.

3. Faster evaluations.

4. More or better advertising.

Although the AFSP has officially gotten rid of the quota system (14:19), there still is a strong perception that quotas are in effect, especially by the officers and GS civilians. Of the 19 respondents who mentioned the need for better screening of suggestions before they are evaluated, 13 were officers and 5 were GS civilians. Those individuals (who do most of the evaluations in CE organizations) expressed a concern that they are receiving ineligible, duplicate, or trivial suggestions for evaluation.

The need for faster evaluations was expressed by members of all four subgroups of civil engineering respondents. One can conclude that they were writing from the perspective of a suggester rather than that of an evaluator. The need for prompt evaluations was highlighted in Chapter II and the fact that the AFSP has an average

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processing time well over 90 days was shown in Chapter IV. It is clear that the CE respondents think that is too long.

The need for more or better advertising of the AFSP was expressed primarily by the enlisted respondents (9 of 17). Many who expressed this idea wrote that they wanted to know how the AFSP worked, but had never had the program explained to them. Some expressed a desire to have a pamphlet that explained the program ground rules. This idea was also discussed in Chapter II. Next, 7 of the remaining 14 ideas will be briefly discussed.

Of the seven respondents who expressed a need for more supervisor support for the AFSP, none were officers. They gave examples of their supervisors' discouraging participation in the program. Supervisory support is another one of the nine factors considered to be essential for the success of a suggestion program.

Officers and GS civilians were the only respondents to express a desire for the suggesters to be required to do more research on their suggestions. Conversely, enlisted and WG civilians were alone in wanting suggesters to be required to do less research. Officers and GS civilians obviously wrote from the evaluator's perspective, while the enlisted and WG civilians wrote from the suggester's perspective.

Five of the six respondents who felt that the cash awards should be higher were enlisted or WG civilians.

Officers and GS civilians were alone in suggesting that the cash awards be eliminated or reduced.

Of the six respondents who suggested that the AFSP be operated like the Model Installation Program, five were officers and one was a GS civilian. Four of the respondents who expressed a desire for more training were officers.

Answer to Research Question Eight.

What ideas do suggestion program personnel have for improving the suggestion program?

Table 4.60 presented the 20 most frequently mentioned improvement ideas given by the suggestion program respondents. Of those 20 ideas, there were five distinct leaders:

1. Higher/standardized grades for AFSP personnel.

2. Revise AFR 900-4, AFM 30-130, or AF Form 1000 and AF Form 162

3. Overhaul the Suggestion Program Data System

4. Establish a training program for SP Managers and clerks

5. Establish evaluator training to improve evaluations

The desire for higher and/or more standardized pay grades for suggestion program personnel was mentioned by 27 of the respondents. The respondents felt that the range of their responsibilities and the need to be credible to upper management qualified them for a higher grade. The typical base level SP Manager is now a GS-7. Most respondents who mentioned this concern felt they should be up-graded to the GS-9 to GS-11 range.

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Some of the comments that suggested changes to the AFSP publications and forms identified specific changes, while others simply said the regulation needed to be brought up-to-date.

Probably the most strongly worded comments from the suggestion program respondents were about the Suggestion Program Data System. Those respondents felt that the system was fair at best. They expressed great concern about the lack of comprehensive documentation for the system and the haphazard manner in which the system was implemented.

Another area that received some strongly worded comments was the lack of any formal training program for new SP Managers. These respondents expressed frustration with the situation they had been placed in when they first became a SP Manager and had received no guidance on how to do their job. Most expressed a desire for some formal classroom training, and one respondent said even a video cassette training program would be better than nothing.

The general concerns about the need for higher quality evaluations and the need for suggestion evaluator training were both lumped into one category.

Seven of the suggestion program respondents believe that cash awards for suggestions which only yield intangible benefits should be eliminated.

It is interesting to note that four of the suggestion program respondents felt that civil engineering work orders

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and safety suggestions should be eliminated from eligibility for the AFSP. They felt that ideas of those kinds should be sent directly to the organizations involved.

Answer to Research Question Nine.

What are the similarities and what are the differences between the recommendations of civil engineering personnel and the recommendations of suggestion program personnel.

There were several ideas which appeared in similar forms from both groups of respondents. The four most frequently mentioned ideas from the civil engineering respondents appeared also were mentioned by the suggestion program respondents. The most often mentioned idea from the civil engineering respondents was to eliminate quotas. Ten of the suggestion program respondents also expressed that idea. The second most often mentioned idea by the civil engineering respondents was to have better screening of suggestions before they are sent to the evaluating organizations. Six of the suggestion program respondents, thinking along the same lines, said that there needed to be clearer suggestion eligibility criteria. The third most frequent civil engineering concern was for faster evaluations. The suggestion program respondents concentrated their concern about slow evaluations on those suggestions that are sent to higher headquarters for evaluation. Finally, the fourth most frequent concern from the civil engineering respondents was for more or better

advertising. Eight of the suggestion program respondents also mentioned that concern.

Both groups had respondents who felt that the cash awards should be increased. Within the civil engineering group, five respondents said that suggesters should not be allowed to make suggestions that were within their area of responsibility, while three respondents said that suggesters should be allowed to make suggestions that were within their area of responsibility. This misunderstanding on the part of the civil engineering respondents was echoed by four of the suggestion program respondents who stated that the job responsibility part of AFR 900-4 needs to be clarified.

Benefit/Cost Analysis

Answer to Research Question Ten.

What percentage of all suggestions submitted Air Force-wide are sent to civil engineering organizations for evaluation?

Table 4.12 showed that for fiscal year 1985, 108,712 suggestions were received by the AFSP worldwide Of those, approximately 91,000 (37) were received in the CONUS. Table 4.61 showed that for the same year, 5684 suggestions were evaluated by CONUS civil engineering organizations. Thus, at least for fiscal year 1985, the percentage of suggestions

sent to civil engineering organizations for evaluation was:

$$\frac{5684}{91,000} = 6.25 \%$$

Answer to Research Question Eleven.

What percentage of all suggestions sent to civil engineering organizations for evaluation Air Force-wide are adopted?

Table 4.61 showed that while 5684 suggestions were sent to CONUS civil engineering organizations for evaluation during fiscal year 1985, 599 suggestions were adopted. The adoption rate of 10.54 percent was calculated as follows:

$$\frac{599}{5684} = 10.54 \%$$

Answer to Research Question Twelve.

What types of suggestions are sent to civil engineering organizations for evaluation?

Table 4.62 presented the categories of suggestions that the civil engineering suggestion evaluators encountered during the monitoring period. The categories, in order from most frequent to least frequent, were traffic, energy conservation, fire protection, HVAC (heating, ventilating, and air conditioning), safety, lighting, security, equipment usage, material conservation, housing, construction, power, painting, publications, and other.

What percentage of the total number of suggestions sent to civil engineering organizations for evaluation Air Force-wide does each type of suggestion represent?

Table 4.62 also showed the percentages that each category of suggestion represented. By far the largest percentage of suggestions were those classified as "traffic" (28.2 percent). The first five categories represented 55.9 percent of the suggestions (traffic, energy conservation, fire protection, HVAC, and safety). However, none of the traffic or safety suggestions produced *any* tangible benefits. Table 5.29 shows the number of suggestions evaluated in each category, the number adopted, and the tangible benefits that resulted.

Table 5.29

Evaluation Data for the Five Most Common Categories
of Suggestions Evaluated by CE Organizations

Category	N	Number Adopted	Number With Tangibles	Total Value of Tangibles
Traffic	46	8	0	0
Energy Conservation	15	2	1	$19,360
Fire Protection	11	2	1	$144,797
HVAC	11	5	3	$63,050
Safety	10	4	0	0

What are the benefits (in dollars) of the suggestions approved by civil engineering organizations?

Table 4.61 showed that the total value of the tangible benefits resulting from the suggestions evaluated by CONUS civil engineering organizations during fiscal year 1985 was $833,971. The mean benefit, calculated by dividing that figure by the number of suggestions evaluated by CONUS civil engineering organizations during fiscal year 1985 was:

$$\frac{\$833,971}{5,684 \text{ suggestions}} = \$146.72 \text{ benefits/suggestion}$$

Answer to Research Question Fifteen.

What are the costs (in dollars) of evaluating the suggestions submitted to civil engineering organizations for evaluation?

There are three components to the evaluation cost: the mean man-hour cost of the actual evaluation within the civil engineering organization, the mean cost of the cash awards that are paid, and the pro-rated share of the full-time, non CE, suggestion program administration personnel budget. Table 4.63 showed that the mean suggestion evaluation cost for a suggestion evaluated by a civil engineering organization is $105.51. That cost consists of $51.06 for the primary evaluator, $17.00 for the evaluator's

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supervisor, $10.61 for the typist, $23.38 for the clerk, and $2.86 for the technician.

Table 4.61 showed that the total cash awards paid for the suggestions evaluated by the CONUS civil engineering organizations during fiscal year 1985 was $57,115. The _mean_ _cash_ _award_, found by dividing $57,115 by the number of suggestions evaluated (5684) during that period was:

$$\frac{\$57,115}{5684 \text{ suggestions}} = \$10.05 \text{ per suggestion}$$

Since 6.25 percent of all AF suggestions are sent to civil engineering organizations for evaluation (Research Question 10), the share of the suggestion program personnel budget that can be attributed to the suggestions evaluated by civil engineering organizations is also 6.25 percent. Based on 1985 pay-scales, the total budget for the suggestion program personnel in the CONUS was $3,997,821. Thus, the civil engineering share of that budget is:

$$(.0625)(\$3,997,821) = \$249,864$$

This cost must then be divided by the number of suggestions evaluated by CONUS civil engineering organizations during fiscal year 1985 to get the mean cost per suggestion:

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$$\frac{\$249,864}{5,684 \text{ suggestions}} = \$43.96 \text{ per suggestion}$$

Table 5.30 summarizes these results and shows that the mean cost _per suggestion_ of evaluating suggestions by civil engineering organizations is $159.52

Table 5.30

Mean Cost of Suggestion Evaluations by CE Organizations

Cost Component	Cost Per Suggestion
CE Man-hour Cost	$105.51
Award Cost	$10.05
Share of Suggestion Program Budget	$43.96
Total	$159.52

Answer to Research Question Sixteen.

How do the benefits of the approved suggestions compare with the evaluation costs incurred by civil engineering organizations?

Based on the answers to research questions 14 and 15, the ratio between the benefits from, and the costs of evaluating, the average suggestion evaluated by an Air Force Civil Engineering organization can be calculated as:

$$\frac{\text{Mean Benefits} = \$146.72}{\text{Mean Costs} = \$159.52} = 0.92$$

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Chapter Summary

This chapter provided the answers to the sixteen research questions. It was shown that the AFSP has 12 similarities with, and 11 differences from, the majority of NASS members. Secondly, it was shown that, overall, the attitudes of civil engineering personnel are favorable toward the AFSP, but not as favorable as the attitudes of the suggestion program personnel. It was further shown that certain demographic and other variables having to do with the respondents' participation in, and knowledge about, the AFSP had a significant effect on the attitudes of the respondents. Finally, it was shown that for the suggestions evaluated by civil engineering organizations, the ratio of benefits to costs is only 0.92.

VI. Conclusions and Recommendations

Chapter Overview

Chapter VI summarizes the conclusions that can be drawn from this study of the relationships between Air Force Civil Engineering organizations and the Air Force Suggestion Program. Recommended actions are provided, both to _improve attitudes_ toward the AFSP, and to _improve the benefit/cost ratio_ for suggestions evaluated by CE organizations. Recommendations for further research are also provided.

Conclusions

Conclusions drawn about populations, based on data collected from samples of the populations, always include some uncertainty. Because of the large sample size for the civil engineering questionnaire, and because of the high response rate to the census of suggestion program personnel, the conclusions that are drawn are 95 percent reliable. The benefit/cost data included 163 suggestions evaluated over a 51-day period. Conclusions based on that data assume the data were representative of the population of nearly 6000 suggestions evaluated during FY 85. Following are the conclusions drawn from this research:

Comparison of the AFSP with Members of the NASS.

1. If one assumes that the polices used most fre-quently by NASS members are the best policies, and that the nine factors affecting the success of suggestion systems

discussed in Chapter II are valid, then, on the favorable side, the AFSP has one of the highest maximum cash awards in the NASS, and its two-year equity period for suggesters is longer than for most NASS members. However, on the less favorable side, the AFSP has one of the longest average processing times, and the AFSP does not require personal contact with suggesters during evaluations, whereas 56.1 percent of the NASS members require such contact.

Civil Engineering Attitudes About the AFSP.

2. Overall, the attitudes of CE personnel toward the AFSP are somewhat favorable. CE personnel believe the two most important purposes of the AFSP are to increase employee involvement in their organization and to improve productivity. They believe the third most important purpose is to improve employee morale. Finally, they do not believe the AFSP is useful as a way to improve communication between employees and management.

3. Civil engineering personnel believe the AFSP yields some worthwhile suggestions, but they are less sure about the overall cost-effectiveness of the program.

4. Despite their indecision about the overall cost-effectiveness of the AFSP, civil engineering personnel agree that the AFSP should be continued.

5. Although there is wide variation in perceived commander support, overall, civil engineering personnel believe their commanders support the AFSP.

6. Civil engineering personnel slightly agree that the AFSP needs additional publicity and advertising.

7. Civil engineering personnel believe that suggestions are submitted for the following five reasons, in order from most common to least common:

    a. To improve Air Force operations.

    b. To get a cash award.

    c. To get a non-monetary award.

    d. To get formal consideration of an idea previously disapproved by their supervisor.

    e. To meet a quota.

Suggestion Program Attitudes About the AFSP.

8. Overall, the attitudes of suggestion program personnel toward the AFSP are favorable. They believe that the primary purpose of the program is to produce productivity improvements. They believe the next most important purpose of the AFSP is to increase employee involvement in their organization. Finally, they believe the third most important purpose is to improve employee morale, and the least important purpose is to improve communication between employees and management.

9. Suggestion program personnel agree more strongly that the savings produced by the AFSP exceed the operating costs, than they do that the intangible benefits exceed the administration efforts.

10. Suggestion program personnel _strongly_ agree that the AFSP should be continued. If one assumes that attitudes affect motivation and behavior (7:7-1), suggestion program personnel are likely to be highly motivated to do a good job. Obviously, one contributing cause of those attitudes could be their desire for job security.

11. Suggestion program personnel agree that the AFSP needs more publicity and advertising.

Variables That Affect Attitudes About the AFSP.

12. Base size, pay-grade level, years of experience, and sex have no significant effect on the attitudes of CE personnel about the AFSP. For civil engineers who have submitted at least one suggestion, their perception of the suggestion evaluation time also has no significant effect on their attitudes about the AFSP. For civil engineers who have evaluated at least one suggestion, the number of suggestions evaluated, number of suggestions approved, knowledge of AFR 900-4, amount of contact with suggesters, and whether they have had evaluation training, all had no significant effect on their attitudes about the AFSP.

13. CE officers have significantly less favorable attitudes about the AFSP than do CE enlisted personnel, salaried civilians, and wage-grade civilians. This situation could be explained by the fact that of the officers responding to the questionnaire, 74.3 percent had evaluated at least one suggestion. For the other three

groups, only 20, 35, and 25 percent of them, respectively, had evaluated at least one suggestion. Those who evaluate suggestions perceive the program as creating additional work, while those who only submit suggestions perceive the program as being beneficial. Also, CE officers who are captains or higher have significantly less favorable attitudes about the AFSP than do CE lieutenants.

14. The major command to which civil engineers are assigned has a significant effect on their attitudes about the AFSP. However, there is no significant difference in attitudes between any two individual major commands.

15. Base level CE personnel have significantly more favorable attitudes about the AFSP than do CE personnel assigned at higher levels. This difference could be explained by the fact that 81.5 percent of the respondents assigned at higher levels were officers.

16. CE supervisors have significantly less favorable attitudes about the AFSP than do non-supervisors.

17. CE personnel who have never considered submitting a suggestion or who have submitted five or more suggestions have the least favorable attitudes about the AFSP. The most favorable attitudes are held by the CE personnel who have thought about submitting a suggestion, but haven't, or who have submitted only one suggestion.

18. CE personnel who have had two or more of their suggestions approved have significantly more favorable

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attitudes about the AFSP than do the CE personnel who have not had any suggestions approved. Similarily, the CE personnel who have received $75 or more in cash awards have attitudes about the AFSP that are significantly more favorable than the CE personnel who have not received any cash awards. Thus, those who have been successful in using the AFSP think the program is beneficial.

19. Base size, pay-grade level, sex, major command, and assignment level, all have no significant effect on the attitudes of suggestion program personnel about the AFSP.

20. SP personnel with four or more years of experience working in the AFSP have significantly more favorable attitudes about the AFSP than SP personnel with one-and-a-half years of experience or less.

21. SP personnel who have read AFR 900-4 and use it often have significantly more favorable attitudes about the AFSP than the SP personnel who have lesser knowledge and use of the regulation. This difference indicates that the individuals who are most dedicated to the program believe the program is beneficial.

22. SP personnel who perceive that the submittal and evaluation support they receive from other organizations is excellent or better have significantly more favorable attitudes about the AFSP than the SP personnel who perceive the support to be less than satisfactory. This difference could be explained by differences in commander support. When

commander support exists, submittal and evaluation support exists, and SP attitudes are better.

Benefit/Cost Analysis.

23. As the AFSP currently operates, it appears that the evaluation of suggestions by civil engineering organizations is not cost effective. The ratio of benefits to costs is only 0.92.

Summary of Conclusions. This study undertook the task of investigating and quantifying the concerns about the AFSP expressed by Mr. Peacock. His concerns, from Chapter I, and the answers to them are:

1. **Civil Engineering receives the vast majority of suggestions for evaluation [24].**

This study found that CE organizations receive only 6.25 percent of all suggestions. However, despite that relatively low figure, 26.9 percent of the SP personnel believe that CE organizations receive more suggestions than any other organization. The only larger group of SP personnel (those who believe that maintenance organizations receive the most suggestions) lumped all of the maintenance squadrons together. If the maintenance squadrons were separated into individual entities, more of the SP personnel might have selected CE. In any case, CE organizations receive a large number of suggestions.

2. **Civil Engineering spends considerable man-hours in evaluating those suggestions [24].**

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This study found that the average suggestion evaluation requires CE man-hours valued at $105.51. This figure was found to be "considerable" when it was compared with the average benefits that result of CE evaluated suggestion.

3. **Very few suggestions approved by Civil Engineering organizations are of significant benefit to the Air Force [24].**

This study found that while the AFSP adoption rate is 19 percent, the adoption rate for the CE evaluated suggestions is only 10.5 percent. Furthermore, while CE evaluates 6.5 percent of the suggestions, those suggestions generate less than one percent (0.65) of all the program's tangible benefits. Thus Mr. Peacock's observation is supported.

Recommendations

The following recommendations are offered for consideration in future efforts to improve the effectiveness of the Air Force Suggestion Program, especially in its relationships with Air Force Civil Engineering organizations.

1. Suggestion evaluation times must be reduced. This can best be accomplished by obtaining support for the AFSP from commanders at all levels. That support should not include suggestion submittal quotas, but should include making the timely evaluation of suggestions a top priority.

2. One way to improve the attitudes of CE officers is to reduce the number of suggestions that they must evaluate. Traffic and safety suggestions (that do not have widespread applicability) should be eliminated from eligibility for the

suggestion program since they are the most frequently evaluated suggestions that produce few if any tangible benefits. The SP Manager should see that such suggestions are transferred to an AF Form 332, BCE Work Request, or AF Form 1135, Real Property Maintenance Request. These forms will then go through the usual CE approval process. Eliminating traffic and safety suggestions will also help to increase the benefit/cost ratio for CE evaluated suggestions.

. 3. Another way to reduce the suggestion evaluation workload of CE, as well as other organizations, is by more thorough screening of suggestions by SP managers before they forward the suggestions to CE for evaluation. A less liberal interpretation of the AFR 900-4 eligibility guidelines needs to be made and disseminated to the base level SP managers.

4. Implementing recommendations two and three will reduce the number of suggestions that must be evaluated. With fewer suggestions to evaluate, suggesters should be able to do better quality evaluations. One way to improve the quality of the evaluations is to require suggestion evaluators to conduct personal interviews with suggesters during the evaluation process, as do 56 percent of NASS members.

5. Attitudes of CE personnel, as well as other base personnel, can be improved by instituting briefings on suggestion program procedures. Many enlisted and wage-grade

civilian CE personnel do not know how the AFSP works and
need to be trained. Short briefings that explain what
constitutes an eligible suggestion, give examples, show how
to complete an AF Form 1000, and explain how the evaluation
process works, should be given at commander's calls.

6. Training should also be given to suggestion evalu-
ators. The training could consist of a one-hour briefing, a
video cassette presentation, or an evaluator's handbook.

7. Training should also be instituted for base level
SP managers and for users of the SP Data System. In
addition, base level SP personnel need to be involved in the
overhaul of the SP Data System. There is a strong feeling
among base level SP managers that the SP Data System was
created without any input from them.

Recommendations for Further Research

The data collected in the course of this study could
have been analyzed in many ways. While the analysis
presented in this report answered the research questions,
further analysis will continue. In addition, further
research should be done in the following areas:

1. Since Air Force Civil Engineering organizations
evaluate 6.5 percent of all suggestions while accruing only
0.65 percent of the tangible benefits, other organizations
are obviously accruing a disproportionate share of the
tangible benefits. There may be other organizations that
also have a benefit/cost ratio that is less than one.

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Studies should be undertaken to analyze the benefit/cost ratios for suggestions evaluated by other organizations.

2. Further study should be done of the 47.5 percent of SP respondents who have read AFR 900-4 and use it often. Since this group of people appears to be most familiar with the operation of the AFSP, their insights into how they perform their duties would be useful as a model for other suggestion program administration personnel to follow.

3. Finally, because of the relatively small sample size of the suggestion evaluation cost data, another study is needed to validate the benefit/cost ratio presented in this study. That study should collect a larger sample of suggestion evaluation times over a longer period of time. The larger sample size would help to ensure that the full spectrum of suggestion types is included and that possible seasonal differences in suggestions are accounted for.

Appendix A: Base Size Categories and Groups

SMALL BASES

Bases That Received the Civil Engineering Questionnaire		Bases That Collected The Suggestion Evaluation Cost Data	
Base	Population*	Base	Population*
Gunter, AL	2116	Goodfellow, TX . . .	3034
Brooks, TX	2600	Columbus, MS	3532
Wurtsmith, MI . . .	4005	Pease, NH	3989
Moody, GA	3869	Grissom, IN	3406
FE Warren, WY . . .	4049	Los Angeles, CA . .	3242
Vance, CA	2620	Reese, TX	3248
Myrtle Beach, SC . .	3905	Hurlburt, FL	4043
Blytheville, AR . .	3228	England, LA	3724
Whiteman, MO	3700	Laughlin, TX	3730

* Combined military and civilian personnel assigned as reported in Air Force Magazine, May, 1986.

MEDIUM BASES

Bases That Received the Civil Engineering Questionnaire		Bases That Collected The Suggestion Evaluation Cost Data	
Base	Population[*]	Base	Population[*]
Luke, AZ	5686	Bolling, DC	4645
Altus, OK	4510	Hanscom, MA	5200
Minot, ND	6629	Castle, CA	5489
Peterson, CO	6633	Pope, NC	4558
Seymour-Johnson, NC	5205	Dyess, TX	5723
Beale, CA	4826	Bergstrom, TX . . .	6159
Loring, ME	4562	Davis-Monthan, AZ .	6483
KI Sawyer, MI . . .	4495	McConnell, KS . . .	4903
Tyndall, FL	5981	George, CA	5908
Cannon, NM	4432	Mather, CA	7333
Dover, DE	5751	Malmstrom, MT . . .	4580
Grand Forks, ND . .	6098	Mountain Home, ID .	4412
Maxwell, AL	6039	Patrick, FL	6134
McGuire, NJ	7124	Fairchild, WA . . .	4940
Williams, AZ	4587	March, CA	5162
Ellsworth, SD . . .	7233	Plattsburgh, NY . .	4700
		Carswell, TX	6011

[*] Combined military and civilian personnel assigned as reported in Air Force Magazine, May, 1986.

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LARGE BASES

Bases That Received the Civil Engineering Questionnaire		Bases That Collected The Suggestion Evaluation Cost Data	
Base	Population*	Base	Population*
Vandenberg, CA . . .	13,837	Scott, IL	10,147
Offutt, NE	15,542	Robbins, GA . . .	20,699
Langley, VA	11,804	Edwards, CA . . .	10,089
McChord, WA	7813	Wright-Patterson, OH	27,000
Randolph, TX	9488	Kirtland, NM . . .	19,620
Holloman, NM	8036	Lowery, CO	14,394
Norton, CA	11,585	McClellan, CA . .	17,759
Charleston, SC . .	9,522	Andrews, MD . . .	7,912
Tinker, OK	26,400	Shaw, SC	7,791
Barksdale, LA . . .	8,100	MacDill, FL . . .	8,915
Hill, UT	20,700	Eglin, FL	16,117
Homestead, FL . . .	12,690	Lackland, TX . . .	24,841
Little Rock, AR . .	8,300	Kelly, TX	25,532
Sheppard, TX . . .	9,431	Keesler, MS . . .	14,599
Nellis, NV	15,000	Chanute, IL . . .	7,810
Travis, CA	15,700	Griffiss, NY . . .	7,727

* Combined military and civilian personnel assigned as reported in _Air Force Magazine_, May, 1986.

Appendix B: Civil Engineering Questionnaire
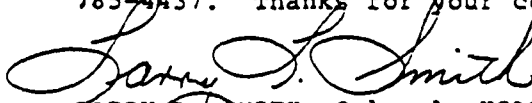
DEPARTMENT OF THE AIR FORCE
AIR UNIVERSITY
AIR FORCE INSTITUTE OF TECHNOLOGY
WRIGHT-PATTERSON AIR FORCE BASE OH 45433-6583

REPLY TO
ATTN OF LS

SUBJECT: Survey of Attitudes About the Air Force Suggestion Program

TO: Air Force Civil Engineering Personnel

1. Please complete the attached questionnaire. The question-
naire is designed to gather information about your attitudes and
perceptions concerning the Air Force Suggestion Program.

2. As a member of an Air Force Civil Engineering organization,
you play an important role in the Air Force Suggestion Program as
a suggestor, suggestion evaluator, or the supervisor of a
suggestor or suggestion evaluator. You may already have
participated in the program in one or more of these ways.
Regardless of your past participation, however, we are interested
in your thoughts concerning the Suggestion Program.

3. The OPR for the Air Force Suggestion Program, HQ AFMEA/MERS,
supports this research and will be provided a copy of the final
report.

4. Your participation is entirely voluntary and your answers
will be anonymous. Your responses will be combined with the
responses of hundreds of other Air Force Civil Engineering people
by an Air Force Institute of Technology researcher. When the
results of the study are published, readers will be unable to
identify specific individuals.

5. The survey takes only eight to ten minutes to complete. Try
to finish it within ten working days. When you finish, return
your survey to AFIT/LSG using the enclosed postage-paid envelope.
If you have any questions, contact 1st Lt Steve Ditmer at Autovon
785-4437. Thanks for your cooperation and participation.

LARRY L. SMITH, Colonel, USAF   2 Atch
Dean   1. Survey
School of Systems and Logistics   2. Return Envelope

SURVEY OF ATTITUDES
ABOUT THE
AIR FORCE SUGGESTION PROGRAM

USAF Survey Control Number 86-61, expires 1 Nov 86

The letter circled above will be used to identify the size of your base for statistical analysis only. Your anonymity is assured as neither this code nor your responses on the survey will be used to identify individual respondents or bases.

PART I -- **Mark your answers directly on the survey.**

1. In which part of your Civil Engineering organization do you currently work?

    A. Operations or Shops   F. Readiness
    B. Engineering   G. Administration
    C. Programming   H. Industrial Engineering
    D. Housing Management   I. Funds Management
    E. Fire Protection   J. Other (Specify)_____

2. What is your current pay-grade?

    _____

3. How long have you worked in Air Force Civil Engineering?

    _____ years, _____ months

4. What is your sex?

    A. Male   B. Female

5. To which Major Command do you belong?

    A. AFCC   E. AU   I. SPACECOM
    B. AFLC   F. ESC   J. TAC
    C. AFSC   G. MAC   K. Other (Specify)
    D. ATC   H. SAC   _____

6. At what level do you work?

    A. Base Level   D. Air Staff
    B. Major Command   E. Other (Specify)
    C. Intermediate Headquarters   _____

7. Are you a supervisor?

    A. Yes   B. No

1

8. Approximately how many suggestions have you submitted to the Air Force Suggestion Program?

   A. 9 or more   D. 3 - 4
   B. 7 - 8   E. 2
   C. 5 - 6   F. 1
   G. I've thought about it, but never submitted one.
   H. I've never even considered submitting one.

IF YOU'VE NEVER SUBMITTED A SUGGESTION, SKIP TO QUESTION 15.

9. How many of your suggestions involved changes to your own work area?

   _____ suggestions

10. How many of your suggestions were approved?

   _____ suggestions

11. What is the total amount of the cash awards you've received from the Air Force Suggestion Program?

   $ _____

12. How many suggestion program certificates have you received?

   _____ certificates

13. On the average, how long does it take to find out whether your suggestion has been approved?

   _____ weeks

14. How would you describe this length of time?

   A. Very reasonable   C. Excessive
   B. Reasonable   D. Very excessive

15. Since you began working in Air Force Civil Engineering, how many suggestions have you evaluated?

   _____ suggestions

IF YOU ANSWERED ZERO, SKIP TO QUESTION 25.

16. Which term best describes your level of suggestion evaluation experience?

   A. Very highly experienced   D. Below average experience
   B. Above average experience   E. Inexperienced
   C. Average experience

2

17. Approximately how many of the suggestions sent to you for evaluation were you unable to act upon because you did not have the required approval or disapproval authority?

    _____ suggestions

18. Approximately how many suggestions have you approved?

    _____ suggestions

19. On the average, how much of an evaluator's time is required to prepare the information needed to satisfactorily complete an AF Form 162, Suggestion Evaluation and Tramsmittal, for suggestions:

    requiring a site-survey: _____ hours _____ minutes

    not requiring a site-survey: _____ hours _____ minutes

20. On the average, how much additional time is required from other people in your organization (clerks, typists, technicians, supervisors) to complete an AF Form 162?

    supervisors: _____ hours _____ minutes

    technicians: _____ hours _____ minutes

    clerks: _____ hours _____ minutes

    typists: _____ hours _____ minutes

21. For what percent of your evaluations did you contact the suggester?

    _____ %

22. Indicate the value of those contacts on the scale below:

    A. Didn't contact any suggesters   C. Somewhat helpful
    B. Very helpful   D. Not helpful

23. The Air Force Suggestion Program is governed by AFR 900-4. Select the statement below which best describes your understanding of AFR 900-4.

    A. I've read it thoroughly and refer to it when evaluating a suggestion.
    B. I occasionally refer to it, but have not read it thoroughly.
    C. I looked at it one time.
    D. I've heard others talk about it, but have not seen it myself.
    E. I've never seen it or heard anyone talk about it.

3

| | 1.0 | ‖ 4.5 ‖ 5.0 ‖ 5.6 ‖ 6.3 ‖ 7.1 | ■ 2.8 ■ 3.2 ■ 3.6 ■ 4.0 | ■ 2.5 ‖ 2.2 ‖ 2.0 |

‖ 1.1

‖ 1.8

‖ 1.25   ‖ 1.4   ‖ 1.6

(
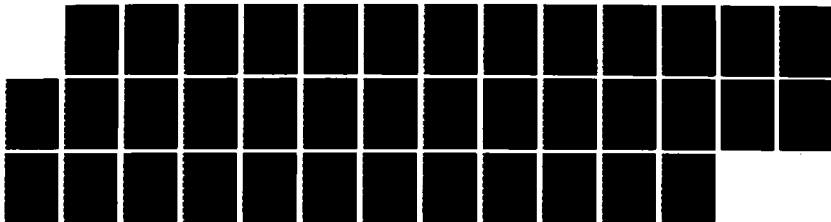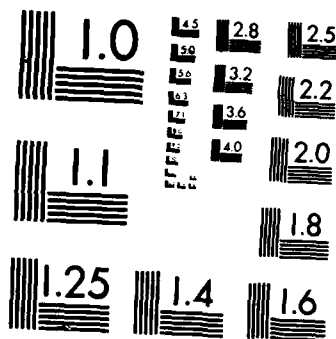
MCROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS 1963-A

24. Have you received any suggestion evaluation training?

   A. Yes
   B. No

25. Which statement best describes your feelings about the size of the cash awards paid by the Air Force Suggestion Program?

   A. Too large   C. Too small
   B. About right   D. I don't know

26. The statements below are potential reasons why an individual might submit a suggestion. Rank them from 1 to 5, with 1 as the most common reason and 5 as the least common. Answer based on your perceptions of the _entire_ Suggestion Program, not your personal reasons for using the program.

   _____ To improve Air Force operations.

   _____ To get formal consideration of an idea previously disapproved by the suggester's supervisor.

   _____ To meet a quota.

   _____ To obtain non-monetary recognition and reward.

   _____ To obtain a cash award.

Part II -- Read each statement about the Air Force Suggestion Program (AFSP) and _circle_ the number from the scale below that most nearly expresses your attitude about that statement.

STRONGLY DISAGREE	DISAGREE	UNDECIDED	AGREE	STRONGLY AGREE
1	2	3	4	5

27. The AFSP provides better communication between employees and management........................... 1 2 3 4 5

28. The AFSP reduces Air Force operating costs........ 1 2 3 4 5

29. The savings produced by the AFSP exceed the cost of running the program................... 1 2 3 4 5

30. The AFSP yields worthwhile suggestions............ 1 2 3 4 5

31. The AFSP creates a better understanding of employees by management........................... 1 2 3 4 5

32. The AFSP brings out hidden talents and aptitudes of personnel............................ 1 2 3 4 5

4

STRONGLY DISAGREE	DISAGREE	UNDECIDED	AGREE	STRONGLY AGREE
1	2	3	4	5

33. Tne intangible benefits produced by the AFSP exceed tne efforts needed to administer the program... 1 2 3 4 5

34. Most suggestions are submitted to benefit tne Air Force rather than for personal gain....... 1 2 3 4 5

35. The AFSP gives employees the satisfaction of being "part of the team.".................... 1 2 3 4 5

36. The AFSP develops the employee's thinking........ 1 2 3 4 5

37. Tne AFSP increases efficiency.................... 1 2 3 4 5

38. The AFSP provides sufficient incentive for participation..................... 1 2 3 4 5

39. The AFSP needs more publicity and advertising..... 1 2 3 4 5

40. Tne AFSP improves the welfare of the employee..... 1 2 3 4 5

41. The AFSP helps the employee to participate in improving the Air Force..................... 1 2 3 4 5

42. The AFSP eliminates waste........................ 1 2 3 4 5

43. The AFSP meets the employee's need for self-expression............................... 1 2 3 4 5

44. The AFSP offers a valuable way of getting one's ideas considered........................... 1 2 3 4 5

45. The AFSP reduces complaints by allowing individuals to suggest remedies................... 1 2 3 4 5

46. The AFSP promotes cooperation between employees and supervisors....................... 1 2 3 4 5

47. Tne AFSP identifies key people in each section.... 1 2 3 4 5

48. The AFSP should be continued..................... 1 2 3 4 5

49. My commander supports the AFSP................... 1 2 3 4

5

Part III -- The last two questions ask for your opinion. Feel free to attach additional pages if you need more space.

50. Does the AFSP need any changes?

    A. Yes   B. No   C. Don't Know

IF YOU ANSWERED NO OR DON'T KNOW TO QUESTION 50, YOU'RE FINISHED. JUST FOLLOW THE DIRECTIONS AT THE BOTTOM OF THE PAGE.

IF YOU ANSWERED YES TO QUESTION 50, SPECIFY THE CHANGES YOU THINK ARE NECESSARY BELOW. LABEL EACH CHANGE AS EITHER MAJOR OR MINOR:

MAJOR OR MINOR?   SUGGESTED CHANGES

_____

_____

_____

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... THANK YOU VERY MUCH FOR COMPLETING THIS SURVEY ...

    Please return in the envelope provided. If the return envelope is missing, please send your survey to:

                1st Lt Steven W. Ditmer
                AFIT/LSG
                Wright-Patterson AFB, OH 45433-6583

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Appendix C: Suggestion Program Questionnaire

DEPARTMENT OF THE AIR FORCE
AIR UNIVERSITY
AIR FORCE INSTITUTE OF TECHNOLOGY
WRIGHT-PATTERSON AIR FORCE BASE OH 45433-6583

REPLY TO
ATTN OF LS

SUBJECT Survey of Attitudes About the Air Force Suggestion Program

TO Air Force Suggestion Program Personnel

1. Please complete the attached questionnaire. The question-
naire is designed to gather information about your attitudes and
perceptions concerning the Air Force Suggestion Program.

2. As a member of the Air Force Suggestion Program team, you
have a unique perspective. We need your thoughts concerning the
Suggestion Program, regardless of your job title or length of
service.

3. The OPR for the Air Force Suggestion Program, HQ AFMEA/MERS,
supports this research and will be provided a copy of the final
report.

4. Your participation is entirely voluntary and your answers
will be anonymous. Your responses will be combined with the
responses of other Air Force Suggestion Program people by an Air
Force Institute of Technology researcher. When the results of
the study are published, readers will be unable to identify
specific individuals.

5. The survey takes only eight to ten minutes to complete. Try
to finish it within ten working days. When you finish, return
your survey to AFIT/LSG using the enclosed postage-paid envelope.
If you have any questions, contact 1st Lt Steve Ditmer at Autovon
785-4437. Thanks for your cooperation and participation.

LARRY L. SMITH, Colonel, USAF   2 Atch
Dean   1. Survey
School of Systems and Logistics   2. Return Envelope

STRENGTH THROUGH KNOWLEDGE

SURVEY OF ATTITUDES
ABOUT THE
AIR FORCE SUGGESTION PROGRAM

USAF Survey Control Number 86-61, expires 1 Nov 86

The letter circled above will be used to identify the size of your base for statistical analysis only. Your anonymity is assured as neither this code nor your responses on the survey will be used to identify individual respondents or bases.

Part I -- **Mark your answers directly on the survey.**

1. What is your current pay-grade?

    _____

2. What is your current job title?

    _____

3. What is your sex?

    A. Male   B. Female

4. At what level do you work?

    A. Base Level   D. Air Staff
    B. Major Command   E. Other (Specify)
    C. Intermediate Headquarters   _____

5. To which Major Command do you belong?

    A. AFCC   E. AU   I. SPACECOM
    B. AFLC   F. ESC   J. TAC
    C. AFSC   G. MAC   K. Other (Specify)
    D. ATC   H. SAC   _____

6. Approximately how long have you worked in the
    Air Force Suggestion Program?

    _____ years, _____ months

7. Indicate the term below which best describes your level of
    Suggestion Program experience and knowledge.

    A. Very experienced and very knowledgable
    B. Moderately experienced but very knowledgable
    C. Moderately experienced and moderately knowledgable
    D. Minimal experience and knowledge
    E. Inexperienced and little knowledge

1

8. The Air Force Suggestion Program is governed by AFR 900-4.
    Select the statement below which best describes your under-
    standing of AFR 900-4.

    A. I've read it and use it often to look-up information.
    B. I've read it and occasionally refer to it.
    C. I've read it but rarely refer to it now.
    D. I've read it once and never looked at it since.
    E. I've read only parts of it at various times when I
        needed information.
    F. I looked at it once.
    G. I've never had a need to look at it.

9. How would you rate the support given to the Air Force
    Suggestion Program by other organizations in terms of
    submitting suggestions?

    A. Poor   D. Excellent
    B. Fair   E. Outstanding
    C. Satisfactory

10. On the average, how would you rate the overall support given
    to the Air Force Suggestion Program by other organizations
    in terms of evaluating suggestions?

    A. Poor   D. Excellent
    B. Fair   E. Outstanding
    C. Satisfactory

11. What percentage of all suggestions sent out for evaluation
    are returned on-time?

    _ _____ %

12. In your opinion, to what organization are the most
    suggestions sent for evaluation?

    _____

13. Approximately what percentage of all suggestions are sent
    to that organization?

    _____ %

14. How would you rate the support given by the organization
    to which the most suggestions are sent for evaluation?
    (The organization you specified in question 12.)

    A. Poor   D. Excellent
    B. Fair   E. Outstanding
    C. Satisfactory

2

15. What percentage of the suggestions sent to the organization specified in question 12 are returned on-time?

_____ %

16. Which statement best describes your feelings about the size of the cash awards paid by the Air Force Suggestion Program?

A. Too large   C. Too small
B. About right   D. I don't know

Part II -- Read each statement about the Air Force Suggestion Program (AFSP) and circle the number from the scale below that most nearly expresses *your* attitude about that statement.

STRONGLY DISAGREE	DISAGREE	UNDECIDED	AGREE	STRONGLY AGREE
1	2	3	4	5

17. Tne AFSP provides better communication between employees and management........................... 1 2 3 4 5

18. The AFSP reduces Air Force operating costs........ 1 2 3 4 5

19. The savings produced by the AFSP exceed the cost of running the program................... 1 2 3 4 5

20. Tne AFSP yields worthwhile suggestions............ 1 2 3 4 5

21. Tne AFSP creates a better understanding of employees by management........................... 1 2 3 4 5

22. The AFSP brings out hidden talents and aptitudes of personnel............................ 1 2 3 4 5

23. The <u>intangible</u> benefits produced by the AFSP exceed the efforts needed to administer the program.. 1 2 3 4 5

24. Most suggestions are submitted to benefit the Air Force rather than for personal gain....... 1 2 3 4 5

25. The AFSP gives employees the satisfaction of being "part of the team."...................... 1 2 3 4 5

26. The AFSP develops the employee's thinking......... 1 2 3 4 5

27. The AFSP increases efficiency..................... 1 2 3 4 5

3

STRONGLY DISAGREE	DISAGREE	UNDECIDED	AGREE	STRONGLY AGREE
A	B	C	D	E

28. The AFSP provides sufficient
    incentive for participation......................... 1 2 3 4 5

29. The AFSP needs more publicity and advertising...... 1 2 3 4 5

30. The AFSP improves the welfare of the employee..... 1 2 3 4 5

31. The AFSP helps the employee to participate
    in improving the Air Force......................... 1 2 3 4 5

32. The AFSP eliminates waste.......................... 1 2 3 4 5

33. The AFSP meets the employee's need
    for self-expression................................ 1 2 3 4 5

34. The AFSP offers a valuable way of getting
    one's ideas considered............................. 1 2 3 4 5

35. The AFSP reduces complaints by allowing
    individuals to suggest remedies.................... 1 2 3 4 5

36. The AFSP promotes cooperation between
    employees and supervisors.......................... 1 2 3 4 5

37. The AFSP identifies key people in each section..... 1 2 3 4 5

38. The AFSP should be continued....................... 1 2 3 4 5

Part III -- The last two questions ask for your opinion. Feel
free to attach additional pages if you need more space.

39. Does the AFSP need any changes?

    A. Yes   B. No   C. Don't Know

IF YOU ANSWERED NO OR DON'T KNOW TO QUESTION 39 YOU'RE FINISHED.
TURN TO THE NEXT PAGE AND FOLLOW THE DIRECTIONS AT THE BOTTOM.

4

IF YOU ANSWERED YES TO QUESTION 39, SPECIFY THE CHANGES YOU THINK
ARE NECESSARY BELOW. LABEL EACH CHANGE AS EITHER MAJOR OR MINOR:

MAJOR OR MINOR?   SUGGESTED CHANGES

_____

_____

_____

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    ... THANK YOU VERY MUCH FOR COMPLETING THIS SURVEY ...

        Please return in the envelope provided. If the return
envelope is missing, please send your survey to:

                    1st Lt Steven W. Ditmer
                    AFIT/LSG
                    Wright-Patterson AFB, OH 45433-6583

                                5

Appendix D: <u>Suggestion Evaluation Cost Collection Package</u>

DEPARTMENT OF THE AIR FORCE
AIR UNIVERSITY
AIR FORCE INSTITUTE OF TECHNOLOGY
WRIGHT-PATTERSON AIR FORCE BASE OH 45433-6583

REPLY TO
ATTN OF LS

SUBJECT Collection of Suggestion Evaluation Times

TO

1. Your cooperation is needed to gather data in support of an Air Force Institute of Technology research project. The project is studying the relationship between Air Force Civil Engineering organizations and the Air Force Suggestion Program. In order to analyze that relationship, we are gathering suggestion evaluation costs, expected benefits from approved suggestions, and attitude information from civil engineering organizations. Your organization has been randomly selected to collect the suggestion evaluation costs.

2. Your participation is voluntary and your responses will be anonymous. Your responses will be combined with the responses of other civil engineering organizations by an AFIT researcher. When the results of the study are published, readers will be unable to identify specific individuals or bases.

3. We recommend that your organization's Civil Engineering Suggestion Program Monitor (SPM) be the OPR for collecting the data. Detailed instructions for the SPM can be found in attachment 1.

4. The OPR for the Air Force Suggestion Program, HQ AFMEA/MERS, supports this research and will be provided a copy of the final report.

5. The completed data collection sheets should be returned to AFIT/LSG by July 23 using the enclosed postage-paid envelope. If you have any questions, contact 1st Lt Steve Ditmer at Autovon 785-4437. Thanks for your cooperation and participation.

LARRY L. SMITH, Colonel, USAF
Dean
School of Systems and Logistics

3 Atch
1. SPM Instructions
2. 30 Data Collection Sheets
3. Return Envelope

STRENGTH THROUGH KNOWLEDGE

SUBJECT: Instructions for Collecting the Data

TO: Civil Engineering Suggestion Program Monitor

1. As part of an AFIT research project, I am trying to determine the evaluation costs associated with the Air Force Suggestion Program. But I need your help. I need you to be the link between me and the individual suggestion evaluators in your organization. Tne remainder of this letter provides detailed instructions to help you do tnat.

2. The following steps will ensure that this project does not require much of your time:

   a. Attach a copy of the Data Collection Sheet (30 copies attached) to all suggestions your organization receives for evaluation beginning today and ending July 11.

   b. Hand-carry each suggestion package to its evaluator.

   c. Explain the purpose of the Data Collection Sheet to the evaluator.

   d. Ensure evaluators understand their responsibility.

   d. When the evaluation is returned to you, make sure the Data Collection Sneet has been completed.

   e. Detach the Data Collection Sheet from the suggestion package and hold it in your office.

   f. On July 21, place all the completed Data Collection Sheets into tne postage-paid envelope enclosed and return them to AFIT/LSG.

3. In Block 7 of the Data Collection Sheet, OI stands for Operating Instruction and SOP stands for Standard Operating Procedure. These terms are interchangeable. The suggestion evaluator should answer that question with a "Yes" or "No".

4. I will be calling you in a few days to make sure you have gotten this package. At that time, I will be happy to answer any questions you might have. Or, if you wish, contact me at Autovon 785-4437. Thanks for your cooperation and participation.

STEVEN W. DITMER, 1st Lt, USAF
AFIT/LSG
Wright-Patterson AFB, OH 45433-6583

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DATA COLLECTION SHEET

Attention Suggestion Evaluator!! Supply the information specified below and return it with the completed AF Form 162, Suggestion Evaluation and Transmittal.

Directions: Carefully track the time you and others in your organization spend preparing your evaluation of the attached suggestion. "Others" includes clerks, typists, those with technical expertise, and your supervisors who sign the AF Form 162. Record the hours below to the nearest one-tenth of an hour. If you have a question, call the person named at the bottom of this sheet.

1. SUGGESTION NUMBER: _____

2. SUGGESTION TITLE: _____

3. CATEGORY (Circle One)

TRAFFIC	FIRE PROTECTION	HVAC	OTHER (SPECIFY BELOW)
DRAINAGE	ENERGY CONSERVATION	LIGHTING	_____

4. DISPOSITION OF SUGGESTION (Check the same block as on the AF Form 162)

_____ A. Approved for adoption (circle one) TOTALLY or WITH MODIFICATION

_____ B. Already in use or under consideration

_____ C. Not approved for adoption

_____ D. Recommend adoption, but approval authority not in this office

_____ E. Do not recommend adoption, but don't have disapproval authority

5. ESTIMATED FIRST YEAR SAVINGS (Net Dollar Value): _____

6. DESCRIPTION OF INTANGIBLE BENEFITS (IF ANY):

_____

_____

7. PRIMARY EVALUATOR:	8. OTHER EVALUATION SUPPORT:		
YOUR PAY-GRADE _____	TASK _____	GRADE _____	HOURS _____
HOURS SPENT EVALUATING	TASK _____	GRADE _____	HOURS _____
SUGGESTION _____	TASK _____	GRADE _____	HOURS _____
DOES YOUR OFFICE HAVE AN OI OR SOP FOR EVALUATING	TASK _____	GRADE _____	HOURS _____
SUGGESTIONS? _____	TASK _____	GRADE _____	HOURS _____

If this sheet becomes detached from the suggestion package, forward it to:
    1st Lt Steven W. Ditmer
    AFIT/LSG   Autovon:
    Wright-Patterson AFB, OH 45433-6583   785-5437

Appendix E: CE Improvement Ideas

Introduction

This appendix contains a representative sample of the ideas for improving the AFSP that were written by the civil engineering respondents. The comments are arranged by topic and have been edited for spelling and grammar only. Each improvement idea that was received is represented by at least one of the included responses but the number of included responses within each topic area has no relation-ship with the total number of responses received in that topic area. The number following each improvement idea is the case number of the respondent who wrote the idea. The case numbers identify the individuals by their pay-play:

Case number	Pay Plan
001 to 200	Enlisted Personnel
201 to 400	Officers
401 to 600	Salaried Civilians
601 to 800	Wage-Grade Civilians

Eliminate quotas

Stop using negative reinforcement (quotas pushed on commanders) and try a more positive advertising approach (290).

*****

Based only on my personal experience, the AFSP is not approached with the proper attitude. On the management side of the coin (commander emphasis), the program seems to be approached as a quota-oriented program. But, when the program is used as a quota system - a gauge by which squadrons are measured - it loses its integrity. "The troops" are faced with a just-another-square-to-fill proposition. It is my opinion that the AFSP has two

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valuable selling points: USAF mission enhancement and personal cash rewards. This should be emphasized at all levels. Let's get the burden of the quota off the backs of commanders and restore credibility to the program (008).

*****

Although personnel are encouraged to submit suggestions in order to meet quotas, the same personnel are encouraged to disapprove suggestions due to the hassles with follow up reports on approved suggestions (243).

*****

Most suggestions come from outside of the organization, take up civil engineering's time, and have little if any positive improvement to the base or the Air Force. It is a paper work, make work, quota program, that needs to be looked at and changed. Some people see it as a way to get around the AF Form 332 and the Facilities Utilization Board system. What we need in Engineering and Services is a good public relations program to get the word out on what we are doing (216).

Screening of Suggestions Before Evaluation

Screen all suggestions before sending them to an evaluator to see if the idea is original, sensible, possible, or should be submitted on a work order (242).

*****

There needs to be some type of filtering process. Right now, every suggestion has to be treated the same regardless of the potential savings or cost for the evaluation. Time costs money and there is no screening process I'm aware of. I suggest that some type of potential savings be identified and provided by the suggester to get his idea evaluated. Now the ones I see in lots of cases have no real savings identified. I also do not understand some suggestions which appear to be job related not being screened (215).

*****

Facilities work that benefits an organization should not be turned in as a suggestion. There are other means (332's etc) to accomplish this. If they are turned in, the using agency who will benefit should evaluate it, especially since their money usually pays for it (432).

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Faster Evaluations

I submitted a suggestion on 2 January 1985. It was approved by TAC and sent to the Air Force Engineering and Services Center (AFESC), Tyndall AFB, Fla. I traced it and discovered that AFESC has had it over a year. The base suggestion office will not follow-up and won't allow me to. I have written my last suggestion (254).

*****

We need quicker turnaround on suggestions to change regulations. Those suggestions are always elevated to a high level and the processing takes too long (204).

*****

Suggestions that have to be submitted higher than base level need to be evaluated faster so that suggesters do not feel like the base level suggestion offices are giving the suggester the run around (041).

More or Better Advertising

The AFSP should be advertised and promoted much more than it is. Instead of just putting placards on bulletin boards, each unit should have an AFSP monitor in charge of promoting people to put in suggestions and to help them out and follow them up. I have never seen it. This person should be in charge of getting shop supervisors to promote the program in the shops more. The shop supervisor knows his people best and can really help them to put in helpful suggestions (030).

*****

Increase publicity in the area of the financial rewards available in the event a suggestion is approved. Each base newspaper should have a "weekly" column devoted to the suggestion program with the following areas highlighted:

    a. How easy it is too submit a suggestion.
    b. Locally approved suggestions and awards.
    c. Command-wide approved suggestions and awards.
    d. Use photos to increase awareness of what the local "winners" have accomplished (082).

*****

I think more emphasis should be put on helping the AF rather than $$$ during advertising campaigns. Advertising

at our base often begins with "short on cash??" or "need some $$$??" I feel this is the wrong way to push the program. How about "The AF needs your suggestions to improve itself. Have any ideas? Fill out an AF Form 1000 and do your part in helping the AF help itself." (255).

More Supervisor Support

I feel supervisors need to be more aware and motivated towards the AFSP. Supervisors need to take the suggestions of an employee seriously and be willing to provide feedback on the suggestions. I think many suggestions are not considered because of the supervisor's lack of job knowledge and communicative abilities (006).

*****

Changes are needed in the way suggestions are evaluated. Some supervisors disapprove suggestions because they think they will make them look bad (612).

Make the AFSP Like the Model Installation Program (MIP)

Disapprovals should be run the same as in the MIP program. Yes is easy. No is difficult (266).

*****

If the suggestion program works, why do we need the Model Installation Program? Obviously, a MIP initiative is easier to get approved and enacted than the AFSP. Why not change the AFSP to follow MIP procedures (287)?

Increase the Cash Awards

I think, if possible, the incentives should be increased just a bit. Although I'm not fully familiar with the program, from what I hear, it sounds to me like the program is cost effective. I couldn't see canceling the program after it seems such a good advertising campaign has gotten it off the ground. After investing so much effort to advertise it, it would be a waste to cancel the program (045).

*****

Make the monetary reward higher as a greater incentive. More and better suggestions (not the "routine" quota-filling suggestions that only keep frustrated

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evaluators busy) will result. Have some big bucks
suggestions better publicized in papers, base bulletins,
etc. Also, make the $50 suggestion for a $10,000 direct
savings a thing of the past. Give him/her $500 and the word
will get out (067).

Require Suggesters to do More Research

I've evaluated a lot of suggestions that seemed like a
good idea on the surface, but o a person familiar with the
area, it is obvious the suggestion wouldn't work. I would
like to see the suggesters required to do more research
(262).

*****

As an evaluator, if I approve a suggestion, I am
required to initiate the necessary paperwork (AF Form 332 or
AF Form 1135) to implement the suggestion, as well as
provide periodic status of it's implementation. This takes
time and takes me away from more important duties. The
suggester or someone in the benefiting organization should
do this (432).

*****

Suggesters should bear some risk for their
suggestions. If the suggester had to attach a $5 bill to
the suggestion, the number of suggestions would decrease and
the quality of suggestions would increase (in my opinion).
The money would be put into a pot to add to the suggestion
award if the suggestion was accepted (416).

*****

Place the burden of proof on the suggester. Most
suggestions I evaluate are hand-written ideas that take five
minutes to think of and write down. Then, I have to spend
two to four hours obtaining documented proof on why it won't
work and another hour filling out the form (211).

Don't Allow Suggestions in Suggester's Area of Responsibility

No monetary payment should be paid an individual if
his/her suggestion is within the technical area of that
individual's AFSC. The government pays for your brains as
well as your physical labors (683).

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Provide More Training on Program Operation

More exposure and discussion in unskilled labor (665).

*****

More training is needed far more than more advertisement or more money. Many good suggestions are turned down because they are written poorly. Many potentially good evaluators botch it because they do not understand the system (249).

*****

I have not seen any literature, or AFR 900-4 in the section I was in for the past 13 years (622).

*****

Develop a <u>readable</u> pamphlet on evaluating suggestions that can serve as a handy reference in lieu of the regulation (281).

*****

I've been in the AF for nearly one year. While I've heard or read of individuals getting monetary rewards for cost-saving suggestions, etc., I've never been exposed to any literature or briefing which explained how the program works. If the AFSP is to succeed, it must be advertised (284).

Reduce the Amount of Information the Suggester Must Provide

Make it easier to explain a suggestion. The research involved is too time consuming and is looked upon as not duty related. Too much information is needed to justify a large money saving suggestion. It is also hard to obtain information if it is not found in your own section (039).

Do Evaluations by Committee

Have a panel to review the suggestions. As the program is, one individual has the option of squelching a suggestion and suggestions are disapproved before being reviewed fairly (437).

*****

Whenever a suggestion is evaluated and marked "not approved for adoption," the evaluator should be required to provide a strong justification, and perhaps the suggestion should then go to a panel for further evaluation. I think too many suggestions are turned down because suggestions are turned down because people are too negative. Very few of the suggestions that go through this office are approved (405).

*****

Several investigators or a central core of evaluators should be tasked to research, interview, discuss, and evaluate all suggestions. They would also have a staff to determine monetary values and to provide administrative support for forms, answers, etc (237).

Do Evaluations Outside the Affected Organization

If the suggestion is for your own work area, have another party evaluate it. Suggestions sometimes are discouraged because the organization must complete the task of evaluating the suggestion, which is often perceived as a burden brought onto the organization by one of its own members (204).

Eliminate Cash Awards

The AFSP could produce great results. Too often, it is used for personal monetary gain and to go over the head of competent supervisors. I think all monetary incentives should be stopped. Contribution to the mission and improved quality of life should be incentive enough and will then stimulate the feelings of team player, self expression, etc. QC needs to be tightened also. Obvious bitches should be filtered out in the AFSP office, not by the designated OPR. That wastes man-hours and overburdens the cost of administration. Automatic reevaluation at the suggester's request is also a waste of man-hours if sent to the same designated OPR. Too often the suggestion program is used to go around established procedures (i.e. BCE Work Request) (251).

Pay Less for Insignificant Suggestions, More for the Best Suggestions

I think too many people are spending government time pursuing suggestions at the expense of their required duties and job. Also, too many supervisors spend valuable time

evaluating suggestions. I would decrease the cash amounts and discourage volume. Less suggestions, higher quality is what we need. If people feel strongly about something, they'll suggest it whether they get paid or not (257)!

*****

Huge awards for "non-unique" suggestions are counterproductive. It gives an air of "Air Force Lottery" to the AFSP. Savings projections are difficult and subjective at best, so the reward system should be toned down (304).

*****

I feel that the AFSP generally is good but I also feel that as a rule, cash awards are frequently absurd. Too much money is awarded for insignificant suggestions and on the other hand, sometimes, no or little money is awarded for suggestions that will save the AF literally millions of dollars (208).

Miscellaneous

Base level suggestion offices need to keep suggesters better informed as to the status of submitted suggestions (041).

*****

Those suggestions requiring higher approval authority should not go through the functional base unit. The base suggestion office should forward to their counterpart for lateral evaluation. The base unit can't enforce responses to its functional headquarters. All one gets are constant suspenses to request status which is a waste of time (214)!!

*****

Suggestion evaluators tend to really hate the program because of the extra workload and the many "stupid" ideas they must evaluate. A system whereby the evaluator would also get a cash award (i.e. 10% of the award amount to a maximum of $100) for an approved suggestion would greatly improve their motivation to take the time necessary to do a proper job of evaluation (232).

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Appendix F: SP Improvement Ideas

Introduction

This appendix contains a representative sample of the ideas for improving the AFSP that were written by the suggestion program respondents. The comments are arranged by topic and have been edited for spelling and grammar only. Each improvement idea that was received is represented by at least one of the included responses but the number of included responses within each topic area has no relationship with the total number of responses received in that topic area. The number following each improvement idea is the case number of the respondent who wrote the idea.

Higher/Standardized Grades for AFSP Personnel

The SP manager should be reclassified into a proper specialized job series. The "301" series is a "catch-all" for administrators. This is a highly specialized field and credit for our special qualifications should be recognized through reclassification and upgrade to an authorized grade of GS-09/11. This would place the program manager in the same grade structure of other incentive award management specialists. The assistant in the SP office should be reclassified, along with the program manager. The authorized grade for this position should be elevated to GS-5/7 and the position should be that of an "Assistant Suggestion Program Manager" and not classified as a clerk-typist or suggestion clerk authorized at the GS-3/4 level. There should be upward mobility in the SP office as exists in the Civilian Personnel Office

*****

Upgrade the SP manager position to the GS-09 level to credit managers with the vast array of responsibilities in fiduciary matters and coordination with all grades of personnel at all commands and HQ USAF levels. I often receive requests for assistance from people evaluating

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suggestions at OPM. I often receive evaluations incompletely returned to me from DOD or HQ USAF level. This requires that I either call the evaluators and explain what's missing, or write to them and hope they can comprehend the need for more complete consideration. The Series 343 should be used to grade managers' positions. We're often called on to explain requirements to manpower and management analysis experts. I am required to explain to Chief Master Sergeants and officers how to forward a case to the right OPR at higher headquarters. If a CMSgt doesn't know the correct chain of command, why not give managers credit for advising individuals of those high grades (816)?

*****

Standard grades are needed for SP managers and assistants. To properly administer the AFSP, the SP manager must be a management expert, budget consultant, computer expert, cost analyst, advertising consultant, public speaker, statistician, and public relations expert (870).

Revise Regulations and Forms

AFR 900-4 should be rewritten with a view toward being more specific. The last rewrite (30 May 1985) only added to the confusion. Apparently the writer believed adding words was the solution, regardless of whether they clarified or improved the regulation. It is poorly written and sentence structure and grammar are very bad. However, even more important, the regulation lacks specificity. There should be specific examples, guidance should be specific, and all guidance regarding any particular area should be consistent. Poor organization of the regulation causes one to waste a lot of time looking for the correct reference. Too much is left to the "judgment" of SP managers and/or OPR's. In the case of job responsibility determinations, for example, guidance in AFR 900-4, para 4-2ae and 9-7c, appears to be in conflict, yet we are told it is so worded to "allow the SPM to use "judgment." Yet SP managers do not have access to the tie breakers (OER/APR/CIV position descriptions) in the normal course of duty (907).

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A new AFR 900-4 is needed. Clarify everything. The regulation is entirely too vague (888).

*****

Expand AFR 900-4 to include some definite "do's and don't's" regarding payment of awards and award amounts for intangible benefits (831).

Include separate document time limits in AFR 900-4, Chapter 5, or at least include the separate document regulation reference reflecting chapter and paragraph where time limits can be found (950).

*****

A more detailed explanation of benefit computation is needed in Chapter 5 of AFR 900-4. Some areas in Chapter 9 used by the program manager to compute awards should be provided in Chapter 5 in order for evaluators to properly understand and document benefits (950).

*****

Rework AF Form 162 to include a more comprehensive section on tangible benefits designed to aid evaluators (950).

*****

AF Form 1000 should include a block for a co-suggester(s) with instructions for the co-suggester to complete Section I of a separate AF Form 1000 (936).

Overhaul the Suggestion Program Data System (SPDS) and Provide Training In Its Use

The SPDS needs a total fix. It needs the capability to do more than just a mediocre job of tracking suspenses. The data system needs to be able to identify suggestion trends and provide analysis of trends on equipment and resources (960).

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All future computer programs and changes should be tested at a large base with a good AFSP that receives a lot of suggestions (908).

*****

The SPDS needs major adjustments. This is particularly difficult since all BLSO's do not do things alike. However, the SPDS should be compatible with AFR 900-4 and BLSO's should have the capability to input data to match the files they keep (869).

*****

Rewrite AFM 30-130 in layman's language.

We need a better manual for the SPDS. We have been on-line with SPDS since Oct 85 and there are still far too many problems, lack of fixes, too much unused data products, and slow response to known computer programming problems.

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There should be a central telephone number to call when problems are encountered on the SPDS. This would eliminate the completion of duplicate AF Form 1945's by several bases (847).

*****

The SPDS should be carefully reviewed or tested by programmers before making any changes. Also, proper training should be given to all people working in the suggestion program about the SPDS (900).

*****

There should be more training on the operation of the SPDS. There is no formal training at all. It is a trial and error operation. You must get second hand information from other suggestion offices to operate the system (952).

*****

A training program should be available on SPDS, as it is a hit and miss situation with very poor instructions and OJT is the only way that experience is gained. At present there are over 100 AF Form 1945's indicating problems, too many to expect someone to research to see if the problem has already been noted (856).

Training Program for Suggestion Program Managers and Clerks

No current training program exists for new managers. Some type of basic program should be established. Perhaps put on a video cassette for distribution to each base to give managers a feel for what their priorities should be and how to accomplish their objectives. (866)

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A training course should be conducted by one OPR to all MAJCOM managers, clerks, and assistants. The training should be conducted by region to save on cost and to get crossfeed from all MAJCOMS (902).

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More involvement of the clerks should be commenced. A workshop specifically designed for clerks would be ideal, especially if a future goal is to work up to a managerial position. It could be run on a volunteer basis maybe once a year in each MAJCOM (826).

*****

There should be available training for SP managers, to include, but not necessarily limited to, training in the functions of various USAF organizations, PAS codes, office symbols; formal training on the SPDS; guidance on the major programs which interface with the AFSP; familiarization and training in handling various forms which take on the identity of separate documentation; familiarization with SPDS output; and troubleshooting the system. In addition, there should be both unit monitor and evaluator training guides provided by Air Force. No employee should be given a responsibility for managing a program with a heavy impact on expenditures of Air Force monies without adequate training and training guides to train others. AFR 900-4 requires SPM's to train both unit monitors and evaluators yet there is no Air Force guide that gives even minimum acceptable data to be used. Therefore, each new SP manager reinvents the wheel. In my opinion, SP managers should be trained within the first 90 days of assignment with refresher training at least annually (907).

Better Evaluations and Evaluator Training

Evaluators need to be required to meet suspenses; only the organizational commander can enforce the requirement for meeting suspenses. Timeliness affects the credibility of the entire program (awards, realization of benefits, and recognition for suggesters). Management needs to recognize the actual value of the AFSP by giving more realistic support. Those managers who are not knowledgeable of the program's actual value are detrimental in unofficial remarks. One way to overcome such poor attitudes on the part of managers is to publicize the benefits and awards not only in AF publications, but in town, state, and national media (918).

*****

Evaluators need training (884).

*****

Suggestions not evaluated on-time should be briefed as delinquent immediately, not after the second late letter and a third to the commander (931).

Suggestion evaluations should be given a higher priority. AF-wide savings documented last FY were over $71 million dollars. This figure applies only to first year savings -- many suggestions continue to accrue savings year after year. Evaluating suggestions on which there is a dollar savings should take second priority only to mission accomplishment (851).

More Manpower in AFSP Offices

Suggestion staffs should be increased so that training and education of suggesters, evaluators, and managers could improve (880).

*****

The manning authorizations for the AFSP at base-level should be increased by at least one clerk position at a moderately sized installation. If you want quality work, you must authorize the required spaces to effect this quality (953).

*****

Provide sufficient personnel to administer the program by the method it deserves; oftentimes, only one or two people are assigned to base-level or MAJCOM suggestion offices when the volume of work demands more individuals. Opening 20 pieces of mail each day, pulling case files, and inputting SPDS information requires one complete individual, especially in view of the large number of "patches", releases, and corrections to the computer system we've had in the past year. Another individual is required to answer customer requests (via telephone and in person) for guidance on completing Suggestion (AF Form 1000) and evaluations (AF Form 162). Both forms are written so that individuals with a 4th or 5th-grade level reading ability can comprehend them, but my requests for help come from Staff sergeants all the way up the chain to Lt Colonels. These individuals expect personalized assistance in spite of the fact that their responsibilities include reading and comprehending general AF regulations and other technical material. This need is a real one, based on the administrative volume of work in areas other than suggestions (they spend so much time reading required info that they feel the need for help on incidental suggestions). Our work counts are not realistic in acknowledging the time required to explain the simple requirements for processing suggestions for individuals who should require no assistance (816).

More Timely Evaluations by Higher Headquarters

When it comes to evaluating suggestions, especially at the MAJCOM, ALC, HQ AF, and DOD levels, not many evaluators evaluate the suggestions in a timely manner. As a matter of fact, requests for status are ignored completely. This makes our job much harder. I recommend that at MAJCOM and higher, the OPR acknowledge receipt of a suggestion, state who the evaluator is, their phone number, and give an estimated completion date. This information will at least provide a contact point. As it stands now, we program managers are left in the dark and the only thing we can do is to continue spending out requests for status that are never or seldom answered (873).

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Reduce the suspense times for MAJCOM and AF level evaluators (914).

*****

More emphasis is needed at the MAJCOM, ALC, and HQ USAF levels for evaluators to complete their evaluations on-time. Their late evaluations cause more complaints than all others causes put together (857).

Eliminate Quotas

Emphasis should be shifted from participation rates at each base to dollar savings achieved at each base. It makes no difference how many people participate in the program if there are no savings achieved (851).

*****

Quantity versus quality - we waste a lot of time and money due to quantity. The majority of suggestions written and received due to the push on "quotas" are a waste of our time. They are ineligible, incomplete, or duplicates. This also creates a waste for the evaluator who receives those that are eligible, but has to evaluate them. We need quality, not quantity (839).

More Top Management Support

The AFSP should be removed from the perception of "fun and games" and be given the respect and consideration an official, enforced AF program deserves. SP managers are placed in a position of having to "beg" for support and to

continuously "sell" the program to management to receive
even the slightest vestige of support. Only when AF
management puts action behind the words in AFR 900-4 by
encouraging and enforcing integrity in evaluations,
adoptions, and computations of benefits, as well as
timeliness of all these actions, will the situation ever get
better (907).

Better Criteria for Intangible Benefits

Intangible savings are being paid based on a small
remarks section and "blocks" on the bottom of the AF Form
162. More emphasis should be placed on the dollar amounts
which coincide with these responses (ie. exceptional/limited
= $500-$1000 award) (916).

More Promotions and Publicity

Produce a standard booklet at AFMEA level for use by
all managers as a handout to people describing the program
in some detail, as private firms now do (892).

*****

For all the dollars, man-hours, etc. that the AFSP is
responsible for saving the government, more recognition of
the program should be made public by the Air Force --
perhaps by an occasional article to generate interest in the
Air Force Times. The article should not necessarily be
about a specific suggester and his award, but on the AFSP in
general--what it is, who can suggest, how it works, etc.
Believe it or not, there are still those out there who don't
know the AFSP exists (869).

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I feel that more publicity and promotion of the AFSP
should come from the highest levels possible. They have all
heard in the national news about the $6,000 coffee pots and
the $700 hammers, but we never hear about the guy who saves
$2 1/2 million by using the AFSP (943).

Reduce/Eliminate Awards for Intangible Benefits

Monetary awards for intangible suggestions should be
discontinued. Certificates are adequate for intangible
benefits (834).

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202

No monetary awards should be paid for intangible benefits. Intangible benefits are too easily mistaken and are more of a single person's opinion rather than a fact (842).

<center>*****</center>

Revamp the "awards for intangible benefits" area so that requirements are more stringent and the amount of the awards is less (891).

Put the AFSP Back Under Personnel

The rationale set forth to move the AFSP from Personnel to the MET's does not justify the change. Most MET offices are crowded and are located in an undesirable place on base. In Personnel, the visibility was highly desirable. The AFSP should be considered a people's program like the other personnel programs. MET's have a preconceived negative connotation surrounding them by other base personnel and placing the AFSP in them will not change the preconception just by saying the program is a productivity activity and more closely realigning it with other MET programs. The power structure is down-graded from being under the DP (usually a Lt Col) on the base commander's staff and being closely tied to the wing commander's activities - to being a tenant unit (MSgt-Capt) (932).

<center>*****</center>

I think the program should have been left under direction of the Director of Personnel. Since moving under TACMET/CC and physically collocating, our program has suffered. We were taken out of. a high visibility area and the TACMET/CC doesn't seem to have much interest in what we do. He doesn't even want to see our distribution. I think the local base managers should be more educated as to the "why's" of this change - what did higher headquarters have in mind. We still fail to see the purpose. Nothing is happening for the better, things are only becoming worse. Now we're being told to stop giving cash awards for intangible benefits, although AFR 900-4 has provisions for this (815).

Put the AFSP Under Installation Commanders

I believe the AFSP should be directly under the jurisdiction of the Base Commander's office so that the emphasis from his subordinates would be better and, if necessary, pressure could be brought in to get them to

<center>203</center>

comply with the requirements of the program. The MIP program gets this support and has better support from evaluators (856).

*****

The Suggestion Program should be under direction of CV at Air Force and every MAJCOM and base function (801).

Make the AFSP Responsible for all Air Force Productivity Improvement Programs

Top management should insist that suggestions (AF Form 1000's) be used instead of pet programs such as MIP, LEP, Zero Overpricing, EIP's, and special command programs by other names. These kinds of programs continue to proliferate when all along the suggestion program has been there but they (management) have not seen fit to make AFSP policy work! (This is a change in attitudes, not program criteria) (817).

*****

There are too many "Programs" in the Air Force all doing the same thing the Suggestion Program does. There are:

Zero-Overpricing (ZO)
Management Improvement Program (MIP)
Technical Order System Improvements
Safety Improvement Programs
Productivity Improvement Program (PIP)
(The list could go on-and-on)

The AFSP could be designed to be the way all ideas on improvements and changes could be submitted. It would eliminate all the hundreds of different forms now in existence that some people use to make recommended changes. One form (the Suggestion Form) could be used and the idea sent to the program manager (OPR) responsible for considering the change (801).

Higher Maximum Award

The pay scale is reversed for awards. The more money one's suggestion saves for the Air Force, the smaller the percentage of this savings is awarded to the suggester (e.g., $10,000 tangible savings, 10% to the suggester; $100,001 tangible savings, $3,700 to the suggester). Whatever the amounts, a change should be made to pay the larger percent for the larger savings (907).

204

The law that put a cap on the amount of money paid for one suggestion should be changed. If an individual saves the government $57,000,000 it seems they should get more than a total of $35,000 (926).

Clearer Suggestion Eligibility Criteria

Refine the eligibility requirements to allow fewer suggestions into the system that only yield intangible benefits (891).

*****

If you read Chapter 3, paragraph 3-2 of AFR 900-4, there is not one suggestion that comes in this office that would be an ineligible suggestion. I think if the individual would write AFR 900-4 more at base level instead at higher headquarters it would be more in line with what is happening (871).

Eliminate BCE Work and Safety Suggestions

I feel that too many suggestions on safety and civil engineering problems come through as suggestions. Ninety-nine percent are trivial. But some are important and should be answered by those agencies through their normal channels rather than creating additional paperwork by sending them through suggestion office, then to the agency. If the idea is significant and produces tangible savings or saves lives due to an extremely hazardous situation and can be used on a wider scale than one base, then let's forward as a suggestion. This idea will prevent wasted documents, save personnel time, and may even result in a transfer of personnel thus reducing some tangible costs (838).

*****

We receive a lot of suggestions about safety on AF Form 1000's that could be reported to safety and save a lot of time in paperwork and man-hours for the suggestion personnel and the evaluators (839).

Clarify the Job Responsibility Part of AFR 900-4

The method for determining job responsibility must be fully explained in order for levels of supervision to understand it (835).

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The purpose of this study was to examine and quantify the observations of a senior Air Force Civil Engineering (CE) manager regarding the relationships between Air Force CE organizations and the Air Force Suggestion Program (AFSP). The study had three basic objectives:

(1) Determine how the AFSP compares with members of the National Association of Suggestion Systems. (2) Measure the attitudes of CE personnel and full-time suggestion program (SP) administration personnel toward the AFSP and compare the attitudes of the two groups. (3) Determine the ratio of benefits to costs for suggestions evaluated by CE organizations and collect ideas for improving the AFSP to make it more cost-effective.

The study found that the mean AFSP evaluation time is much longer than for most NASS members and recommends that commander emphasis be placed on reducing those times.

Analysis of the attitude surveys found that CE personnel have slightly favorable attitudes toward the AFSP, and that SP personnel have more favorable attitudes than the CE personnel. CE personnel agreed and SP personnel strongly agreed that the AFSP should be continued. CE officers were found to have significantly less favorable attitudes toward the AFSP than CE enlisted personnel and civilians. SP personnel who have read AFR 900-4 and use it often were found to have significantly more favorable attitudes toward the AFSP than do SP personnel who have lesser knowledge and use of the regulation.

Using fiscal year 1985 data, the benefit/cost ratio for suggestions evaluated by CE organizations was only 0.92. During that year, CE organizations evaluated 6.5 percent of the suggestions but those suggestions accounted for only 0.65 percent of the total AFSP tangible benefits. Among the recommendations provided to improve that ratio is to eliminate traffic and safety suggestions from eligibility for the program.

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